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HYDROLOGIC STUDIES

COMPILATION OF  
RAINFALL AND RUN-OFF FROM THE WATERSHEDS  
OF THE UPPER MISSISSIPPI VALLEY  
CONSERVATION EXPERIMENT STATION

LA CROSSE, WISCONSIN

1932-38

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UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
Washington, D. C.  
H. H. Bennett, Chief

HYDROLOGIC STUDIES

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RAINFALL AND RUN-OFF FROM THE WATERSHEDS  
OF THE UPPER MISSISSIPPI VALLEY  
CONSERVATION EXPERIMENT STATION  
LA CROSSE, WISCONSIN

1932-38

by

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(3973)



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REPORT ON HYDRAULIC  
INVESTIGATIONS ON SMALL WATERSHEDS AT  
THE UPPER MISSISSIPPI VALLEY  
CONSERVATION EXPERIMENT STATION  
LA CROSSE, WISCONSIN

I History

The Upper Mississippi Valley Soil and Water Conservation Experiment Station was established in 1931 as a joint research project between the Bureau of Chemistry and Soils, The Bureau of Agricultural Engineering, and the Wisconsin State Experiment Station. This research project was established to determine the basic factors affecting soil and water losses in the Upper Mississippi Valley region. The region includes about 12 million acres of driftless, unglaciated soil of southwestern Wisconsin, southeastern Minnesota, northwestern Illinois, and northeastern Iowa. On April 1, 1935, this Project was included as a part of the Soil Conservation Service under the Department of Agriculture.

Acknowledgment is made to G. E. Ryerson, F. E. Hardesty, V. J. Palmer, and H. B. Atkinson for their work in collecting the basic records. During this period E. H. Davis and O. E. Hays supervised the project. Mr. Atkinson directed the field WPA men in compiling the records for this report. W. D. Potter and L. L. Harrold of the Washington Office, Hydrologic Division, prepared the instructions for compiling the data and reviewed the compilation before publication. Mr. Potter initiated the WPA compilation work in the field.





## II. Physical characteristics of the station

The station is located on land owned by the State of Wisconsin. It consists of 160 acres (figure 1) located 4 miles east of La Crosse, County of La Crosse, State of Wisconsin. Its topography consists of steep hilly land. Only the narrow ridges are cultivated, the rest of the station is in pasture and timber. The soil is unglaciated, loessial forest soil with Clinton (Fayette) and Dubuque Silt Loams predominating.

## III. Description and history of each watershed

As part of the experimental work conducted at this station, three small watersheds were established to determine the effect of land use on surface run-off and soil loss.

The unterraced pasture watershed (UPW) shown in figure 2 was established in 1932. The upper two-fifths of the area, prior to 1932, was a portion of a cultivated field, the lower part had been in pasture for a number of years. Earth dikes were established as boundaries and concentrated the water at the lower side. The area of this watershed, when established, was 2.713 acres. At the time the watershed was established there was an old road that divided the upper and lower part of the area. This road had a tendency to act as a partial terrace. The area was pastured during the years 1932 and 1933. Pasturing was stopped on this area at the beginning of 1934 and it was not pastured again until



July 17, 1935. During this period there was a dense stand of vegetation which was periodically cut for hay.

On November 2, 1934, a small diversion ditch was constructed across the upper portion of this watershed, reducing the area to 2.412 acres. Removal of the old road from the watershed was started April 24, 1936 and finished June 22, 1936. The soil from the roadway was used to enlarge the boundary dikes on the sides and bottom of the watershed. The sod from the dikes and roadway was removed and replaced as the work progressed. Pasturing was not started in 1936 until June 29. The area of sod on the old road location was fenced to keep stock off; this amounted to 0.37 acres. The rest of the vegetation was cut for hay on June 18, 1936. The fence was removed from the old road location on October 5, 1936. A new concentrating channel was constructed at the bottom of the watershed during the period December 3, 1936 to January 11, 1937.

The unterraced cultivated watershed (UCW) shown in figure 3 was established in 1932. Prior to 1932 the upper two-thirds of this area had been under cultivation for a number of years and the lower one-third had been in hay. The area of this watershed, when established, was 4.13 acres. On March 22, 1934 the area was reduced to 2.335 acres. The construction of boundary dikes,



necessitated by this change, were completed on April 14, 1934. A rubble concrete lining was placed in the concentrating ditch on June 18-19, 1934. On July 15-17, 1935, the approach section of the concentrating channel, immediately above the flume, was changed giving it an increased grade. This change produced velocities of approach to the rate measuring flume that were considered too high. This condition existed until August 12-13, 1935 when the approach section was changed to a flat grade. On April 13, 1936 a dike was built removing 0.09 acres from the watershed and reducing the drainage area from 2.335 to 2.245 acres.

The watershed is V-shaped with a short section of masonry interception channel at the bottom. Earth dikes have been constructed on the boundaries perpendicular to the slope. The drainage of the upper two-thirds of the area is uninterrupted sheet flow, the water concentrating into eight field gullies on the lower one-third of the area. The average slope of the watershed is 15 percent with a maximum of 25 percent.

This watershed has been farmed on the contour. It has been cultivated with a three-year rotation of corn, small grain and hay, starting in 1932 with hay. By the fall of 1937, the lower one-third of this area had such severe gully erosion that it was impractical to continue to cultivate it on the contour. Numerous





small sod hump dams and sod bag dams were constructed in these field gullies. On September 1, 1937 this lower portion of the watershed was seeded to rye and grass mixture and fertilized. During 1938 this lower one-third of the area had a dense stand of hay, none of which was cut. This hay strip across the lower part of the watershed materially reduced the soil losses for 1938.

The soils map of this area, as shown, was made in 1934. This map shows the lower portion as having 7 inches of topsoil remaining at that time. By the fall of 1938 this depth of topsoil had been reduced to approximately 3-1/2 inches.

The controlled watershed (Cont. W.) of 2.705 acres shown in figure 4 was established January 1, 1937. This watershed is approximately rectangular in shape having an average slope of 17 percent. It has metal boundaries up and down the slope with a metal-lined concentrating ditch at the bottom. Drainage is by sheet flow.

This area is divided on the contour into two segments, the upper one is strip-cropped to a three-year rotation of corn, barley, and hay. The lower segment is cropped to alfalfa as much of the time as possible. It has not been possible to maintain a definite three-year rotation on the lower segment due to seeding failures.



#### IV Instrumentation

##### A Rain gages - standard and recording (table 1)

All recording rain gages used at this station are Fergusson weighing and recording rain and snow gages, using recorder charts having a vertical scale of 1 1/2 inches = 1 inch of rainfall and a horizontal scale of 1 inch = 62 1/2 minutes. All standard rain gages are of the standard Weather Bureau type.

##### B Flumes

(See table 2.)

##### C Ramsar Silt Sampler

The Ramsar Silt Sampler, as used at this station, is placed on the side of the silt box 2 feet from the end weir. The bottom of the entrance of the sampler is installed at the same elevation as the end weir. Thus a sample is secured of all run-off that passes over the end weir. The sampler is provided with a 1/2-inch width entrance. The sample is then divided by a 3-inch slot and a 1/2-inch slot. The run-off from the 1/2-inch slot is retained in a side tank and that from the 3-inch slot is wasted.

To determine oil loss, three 1-quart samples are taken on each of the following: The supernatant liquid, sludge in the silt box, and the side tank sample secured by the Ramsar sampler. These samples are dried in the laboratory and the





soil content per known volume of the jars is determined. The soil content per cubic foot of run-off is then multiplied by the volume of run-off to which it applies. The total run-off is, of course, determined from hydrographs secured from the waterstage recorder.

## V Graph and tabulation sheets

### A Rainfall

On the Form SCS-345, all storms, regardless of whether or not surface run-off resulted, were tabulated. If a break occurred between storms of more than one hour duration, during which less than 0.01 inch of rain fell, it was designated as two separate storms. Those storms for which graphs were prepared were selected so as to include, as nearly as possible, all types of storms occurring within the period of record.

In plotting the accumulated rainfall and intensity graphs, rainfall depth at the break points of the recorder trace were tabulated and plotted and the intensities between such break points calculated, rather than the depths and intensities for any selected time interval. The recording gages were selected to provide a record most nearly representative of the precipitation on the small watersheds under consideration.

The amount (inches) under "Rainfall" on Form SCS-345 was obtained from measurements taken from rain gages that were in operation nearest the watersheds. This method was used because



of the steep topography of the station land. It has been found that there is considerable variation in amount of rainfall on the different slopes for the same storm.

#### B Surface run-off

The gage heights and time were tabulated at break points and other points on the water-stage charts. The rates for the gage heights were taken from rating tables and the rate in cubic feet per second was determined and plotted on the final graph sheet. The accumulated run-off for each time increment used was determined and also plotted on the graph sheet.



Table 1

WATERSHED INSTRUMENTATION  
Rain Gages

LaCrosse, Wis.

Gage no.	Type	Date of instal- lation	Scales: 1" on chart: equals	Distance: to obstacle	Height of obstacle	Remarks
			Time	Time	Time	
			minutes	depth	rain gage	
			inches	feet	feet	
CS	Fergusson:					
	Recording:	1932	125	0.66	200	50
CE	Fergusson:					
	Recording:	1935	62-1/2	0.66	15	1-1/2 Formerly CS gage
UPW-H:	Standard	1936				
CP	Fergusson:					
	Recording:	1935	62-1/2	0.66	25	2 Only recording gage in operation during winters of 1937-38
TP	Fergusson:					
	Recording:	1937	62-1/2	0.66	30	2 Formerly TP gage moved to new location
SP	Fergusson:					
	Recording:	1938	62-1/2	0.66	40	2 Formerly SP gage
E	Fergusson:					
	Recording:	1938	62-1/2	0.66	12	2
UCW-H:	Standard	1935			200	30
ST. PL:	Standard	1935				
					200	20
CW	Standard	1937				
					250	15





Table 2

WATERSHED INSTRUMENTATION  
Flumes and Silt Samplers

LaCrosse, Wis.

Water- shed no.	Flume		Water stage recorder			Silt sampler	Date of instal- lation	Frequency of field checks	
	Type & size	Mat- erials	Make & type	Scale: division	Equals: Time : Gage : height :			Zero : on : gage :	Flume : dimen- sions :
	feet			minutes	feet	cubic feet	years	years	years
U.P.W.	Parshall:	Sheet:	Bristol:	5	0.02	Ramser	1932	1 1/2	1
	2'	metal:	2:9 gage:			256			
			height :						
			ratio :						
U.C.W.	Parshall:	Sheet:	Bristol:	5	0.02	Ramser	1932	1 1/2	1
	2'	metal:	2:9 gage:			1/640			
			height :						
			ratio :						
Cont. W.	Trape-	Sheet:	Bristol <sup>2</sup> :	5	0.02	Geib	1937	1 1/2	1
	zoidal	metal:	2:9 gage:			73			
			height :						
			ratio :						
			Friez <sup>2</sup> :	10	0.02		1938		

<sup>1</sup>New silt box with 96 cubic feet capacity replaced old box June 20, 1938.

<sup>2</sup>In 1938 the Bristol recorder was replaced by a Friez FW-1 recorder with 1:5 gage height ratio.



Table 3

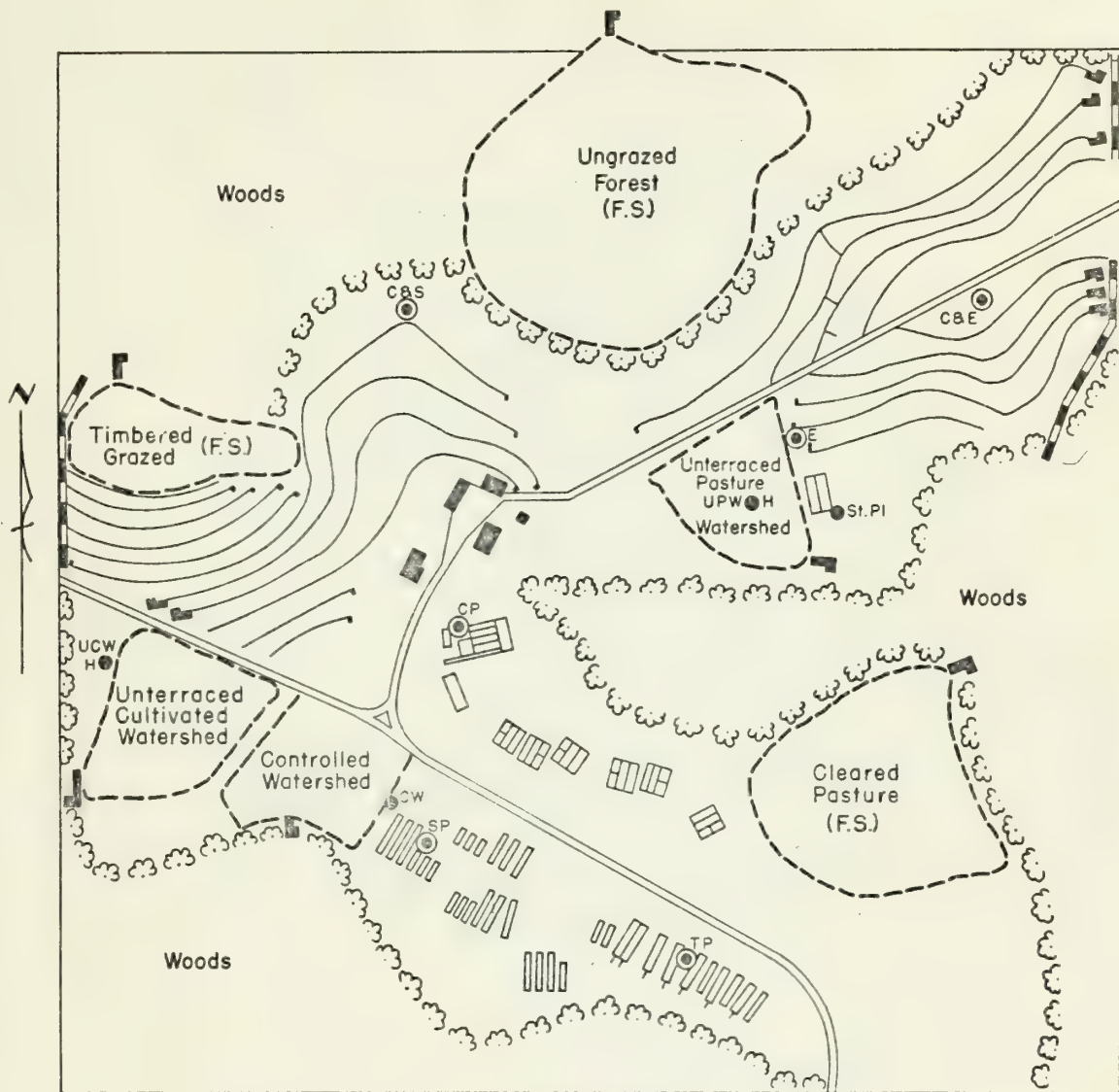
## WATERSHED LAND USE

LaCrosse, Wis.

Water-shed no.	1932	1933	1934	1935	1936	1937	1938	Remarks
UFW								
Area (acres)	2.713	2.713	2.713	2.412	2.412	2.412	2.412	
Land Use	Pasture	Pasture	Meadow	Pasture	Pasture	Pasture	Pasture	
UCW								
Area (acres)	4.13	4.13	2.335	2.335	2.335	2.335	2.245	
Land Use	<del>Hay</del> Corn	Barley Hay	Hay	Corn	Barley Hay	Hay <sup>1</sup>	Corn <sup>2</sup> Rye-Hay	
Cont. W								
Area (acres)						2.705	2.705	
						1 Alfalfa	1 Alfalfa	
						2 Alfalfa	2 Alfalfa	Land use strips
						3 Corn	3 Corn	
						4 Barley	4 Barley	
						5 Alfalfa	5 Alfalfa	

<sup>1</sup>Hay in upper 2/3 of area cut; in lower 1/3 of area hay not cut.<sup>2</sup>Corn in upper 2/3 of area; rye and hay in lower 1/3 (hay not cut).





AREA-160 ACRES

## LEGEND

Watershed boundaries	---	Recording rain gage	⊙
Terraces	—	Standard rain gage	●
Test plots	▭	Run-off measuring station and silt box	⌂
Outlet channels	▬		

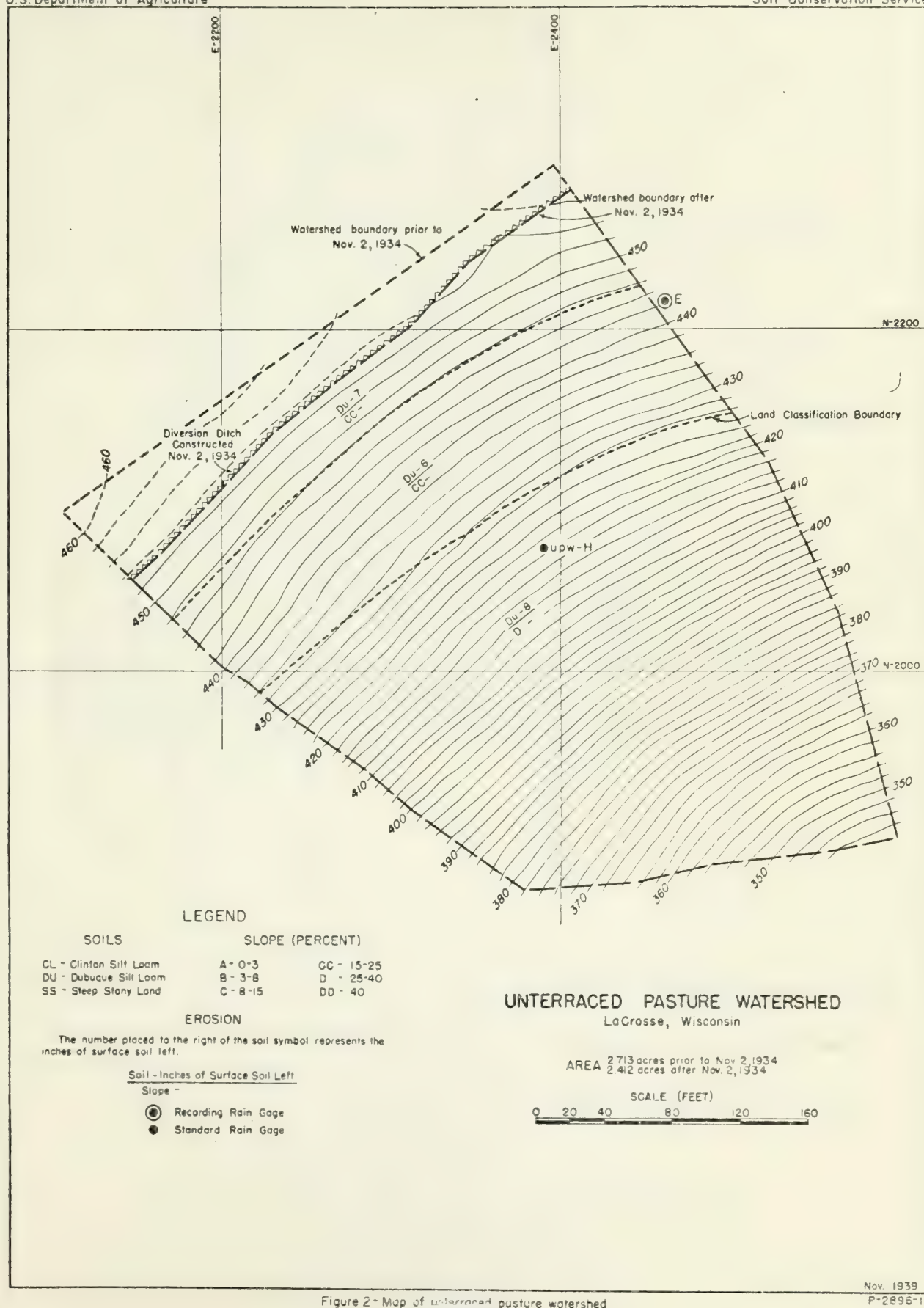
## SCALE

0 100 200 300 400 500 FEET

Nov. 1939

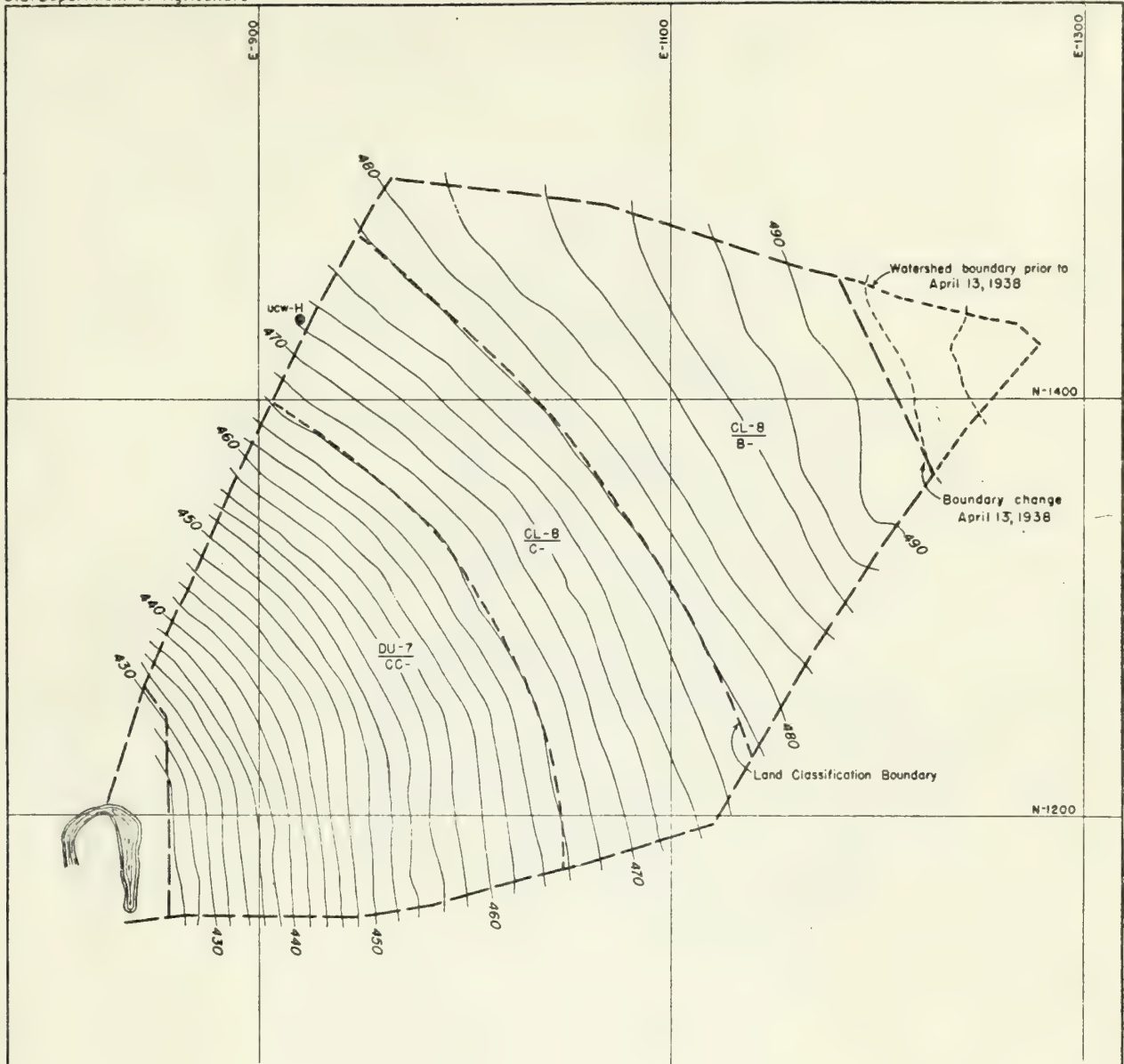
Figure 1.- Map of the Upper Mississippi Valley Conservation Experiment Station showing location of the fields and experimental areas.











## LEGEND

## SOILS

CL - Clinton Silt Loam  
DU - Dubuque Silt Loam  
SS - Steep Stony Land

## SLOPE (PERCENT)

A - 0-3      CC - 15-25  
B - 3-8      D - 25-40  
C - 8-15      DD - 40

## EROSION

The number placed to the right of the soil symbol represents the inches of surface soil left.

Soil - Inches of Surface Soil Left  
Slope -

● Standard Rain Gage

## UNTERRACED CULTIVATED WATERSHED

LaCrosse, Wisconsin

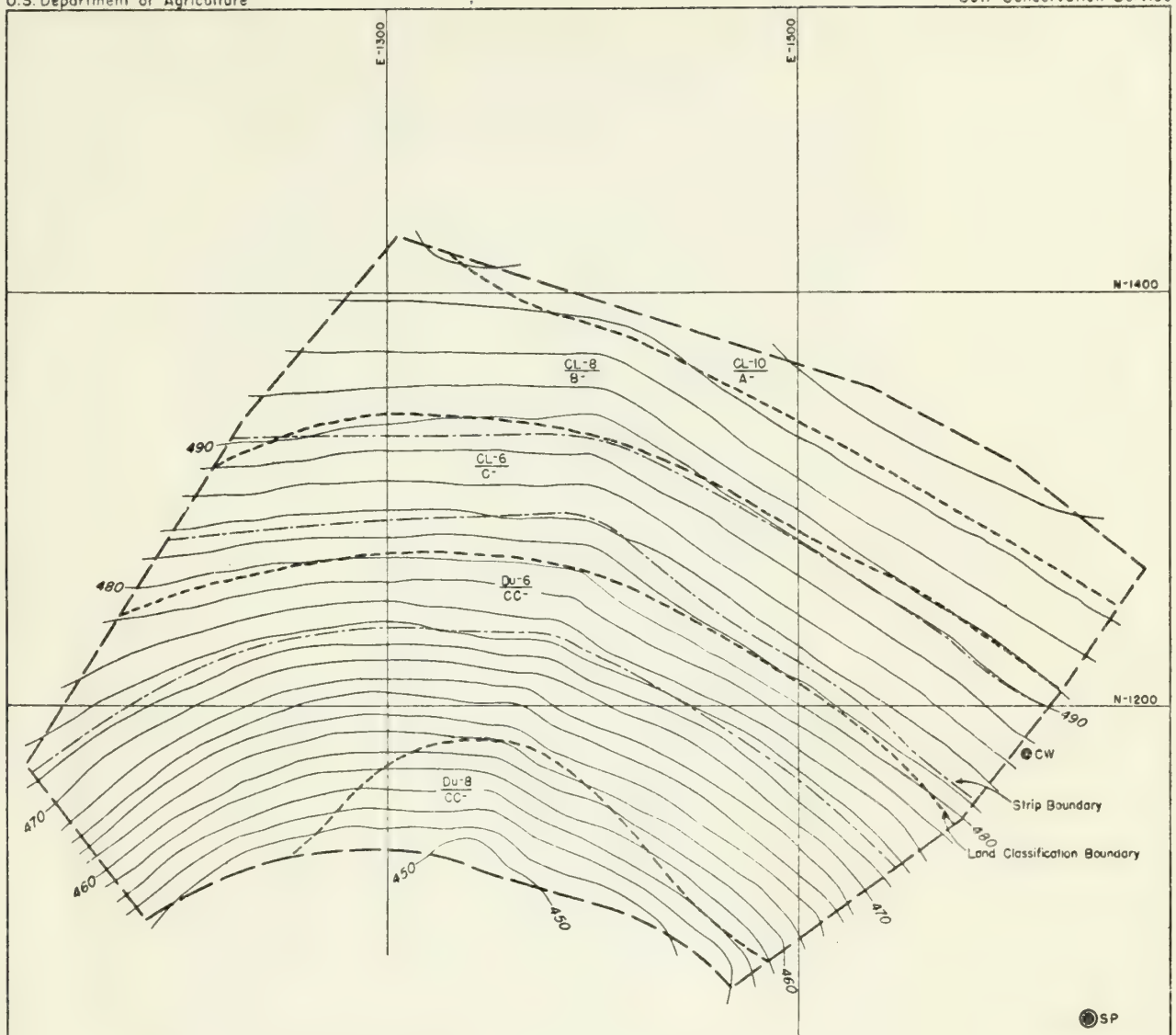
AREA 2,335 acres March 22, 1934 - April 13, 1938  
2,245 acres April 13, 1938 -

SCALE (FEET)

0 20 40 80 120 160

Figure 3 - Map of unterraced cultivated watershed





## LEGEND

## SOILS

CL - Clinton Silt Loam  
 DU - Dubuque Silt Loam  
 SS - Steep Stony Land

## SLOPE (PERCENT)

A - 0-3  
 B - 3-8  
 C - 8-15  
 CC - 15-25  
 D - 25-40  
 DD - 40

## EROSION

The number placed to the right of the soil symbol represents the inches of surface soil left.

Soil - Inches of Surface Soil Left

Slope -

- Recording Rain Gage
- Standard Rain Gage

### CONTROLLED (STRIP-CROPPED) WATERSHED

La Crosse, Wisconsin

AREA - 2.705 acres

SCALE (FEET)

0 20 40 80 120 160

Figure 4 - Controlled (strip-cropped) watershed.









Plate I    Unterraced pasture watershed. Showing  
resodded areas where old road was removed  
during the summer of 1936. September 16, 1936.



Plate II    Measuring equipment on untterraced pasture  
watershed. Showing concrete entrance  
channel, two-foot Parshall flume, and  
recorder shelter. September 7, 1939.







Plate III    Unterraced cultivated watershed. Entrance channel to two-foot Parshall flume. August 19, 1935.



Plate IV    Unterraced cultivated watershed. Showing excessive erosion caused by rain of 4/30 and 5/1/36. The area had been seeded to barley and hay mixture three days previous. Soil loss 36 tons per acre. May 4, 1936.





Plate V    Unterraced cultivated watershed. Showing lower third of area after it had been seeded down and dams (sod hump and sod bag) placed in gullies. September 29, 1937.



Plate VI    Unterraced cultivated watershed. Showing new metal silt box installed July 20, 1938. February 17, 1939.





Plate VII      Controlled watershed. Showing a permanent hay strip at the lower edge and a dike at the lower edge to conduct the water to measuring unit. September 29, 1937.



Plate VIII      Controlled watershed. Measuring unit with silt box placed in front of flume. Capacity of silt box before run-off starts through flume is 73 cu. ft. Two 5-slot Geib divisors are used to sample run-off. February 17, 1939.



UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 19 22  
SHEET 1 OF 3 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROCTOR LaCrosse, Wisconsin

DATE	WATERSHED		OBS. No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			TRANSMISSION (degree F)		RUN-OFF			RAINFALL MINOR (inches)	Silt Loss (tons per acre)	CONDITION OF WATERSHED					
	Number	Area (acres)					8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	Amount (inches)	On ft. sec.				Time				
		(a)					(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)				(j)	(k)	(l)	(m)	(n)
7/1/22	UPW	2.713	4	8:30P	30	0.05	0.12	0.12	VL	70	54						Unterraced cultivated watershed. Planted to corn on the contour. All plowed areas were planted on the contour. No crop records available.					
7/1/22	UCW	4.13	CE	8:30P	30	0.05	0.12	0.12	VL	70	54											
7/1/22	UPW	2.713	CE	4:30A	635	1.00	0.18	0.40	0.10	61	56											
7/1/22	UCW	4.13	CE	4:30A	635	1.00	0.18	0.40	0.10	61	56											
7/5/22	UPW	2.713	CE			0.20	Recorder	Failed		80	55						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE			0.20				80	55											
7/5/22	UPW	2.713	CE	7:15P	10	0.05	0.18	--	--	87	59											
7/5/22	UCW	4.13	CE	7:15P	10	0.05	0.18	--	--	87	59											
7/5/22	UPW	2.713	CE	10:10P	195	1.13	2.16	1.84	1.12	87	59						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	10:10P	195	1.13	2.16	1.84	1.12	87	59											
7/5/22	UPW	2.713	CE	3:30P	52	0.16	0.0	0.24	0.20	84	66											
7/5/22	UCW	4.13	CE	3:30P	52	0.16	0.0	0.24	0.20	84	66											
7/5/22	UPW	2.713	CE	5:10A		0.03	VL	VL	VL	70	64						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	5:10A		0.03	VL	VL	VL	70	64											
7/5/22	UPW	2.713	CE	5:10A	9	0.09	0.32	--	--	74	63											
7/5/22	UCW	4.13	CE	5:10A	9	0.09	0.32	--	--	74	63											
7/5/22	UPW	2.713	CE	5:10A	26	0.05	1.00	0.72	0.72	79	63						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	5:10A	26	0.05	1.00	0.72	0.72	79	63											
7/5/22	UPW	2.713	CE	9:30A	50	0.03	VL	VL	VL	78	53											
7/5/22	UCW	4.13	CE	9:30A	50	0.03	VL	VL	VL	78	53											
7/5/22	UPW	2.713	CE	7:30P	181	1.30	2.88	2.10	2.16	87	64	2:50P	3:29P				Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	7:30P	181	1.30	2.88	2.10	2.16	87	64	2:50P	3:29P									
7/5/22	UPW	2.713	CE	6:35P	565	0.11	0.18	0.20	0.16	84	63											
7/5/22	UCW	4.13	CE	6:35P	565	0.11	0.18	0.20	0.16	84	63											
7/5/22	UPW	2.713	CE	11:30P	285	0.06	1.20	0.84	0.60	89	64						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	11:30P	285	0.06	1.20	0.84	0.60	89	64											
7/5/22	UPW	2.713	CE	6:00P	50	0.02	2.08	1.18	0.80	82	62											
7/5/22	UCW	4.13	CE	6:00P	98	0.02	2.08	1.18	0.80	82	62											
7/5/22	UPW	2.713	CE	6:00P	268	0.07	0.18	0.13	VL	71	59						Unterraced pasture watershed. Lower 2/5 of watershed in well established blue grass. Upper 3/5 in newly established sod. There is an old road dividing the upper and lower part of this watershed that acts as a partial terrace. The lower part of the area has an accumulation of dead grass approximately one inch thick. Part of the sod from the ditch along the lower side of this area was washed into the silt box during the storm of Aug. 17. This area was pastured during 1922.					
7/5/22	UCW	4.13	CE	6:00P	268	0.07	0.18	0.13	VL	71	59											





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DIVISION OF RESEARCH

Form No. 1-3-34

MONTH \_\_\_\_\_, 1932

SHEET 2 OF 3 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

Date	WATERGAGED		RAINFALL						MAXIMUM INTENSITY				EXCESS WATER		RUN-OFF				RAINFALL MINUS RUN-OFF (inches)	EXCESS LOSS (tons per acre)	CONDITION OF WATERSHED		
	Number	Area (acres)	Gage No.	Period (hours)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)			15 minutes (inches per hour)		30 minutes (inches per hour)	Minimum (inches)	Maximum (inches)	Peak (inches)	Excess (inches)	MAXIMUM RATE						
							Amount (inches)	Direction (inches)	30 minutes (inches per hour)	15 minutes (inches per hour)	5 minutes (inches per hour)						Amount (inches)	Time				Cu ft. sec.	
9/12/32	UPW	2,713	CE	5:10A	500	0.93	(7)	(9)	(10)												(18)	(19)	
9/12/32	UCW	4,113	CE	5:10A	500	0.93		0.36	0.34														
9/12/32	UPW	2,713	CE	4:55P	60	0.16		0.24	0.16														
9/12/32	UCW	4,113	CE	4:55P	60	0.16		0.24	0.16														
9/18/32	UPW	2,713	CE	9:10A	175	0.11		0.24	0.12	VL													
9/18/32	UCW	4,113	CE	9:10A	175	0.11		0.24	0.12	VL													
9/19/32	UPW	2,713	CE	8:17A	113	0.06		0.24	0.12	VL													
9/19/32	UCW	4,113	CE	8:17A	113	0.06		0.24	0.12	VL													
9/19/32	UPW	2,713	CE	2:50P	303	0.14		0.48	0.26	0.20													
9/19/32	UCW	4,113	CE	2:50P	303	0.14		0.48	0.26	0.20													
9/19/32	UPW	2,713	CE	9:52P	18	0.07		0.36	0.28	--													
9/19/32	UCW	4,113	CE	9:52P	18	0.07		0.36	0.28	--													
9/22/32	UPW	2,713	CE			0.02																	
9/22/32	UCW	4,113	CE			0.02																	
10/3/32	UPW	2,713	CE	7:52P	68	0.05		VL	VL	VL													
10/3/32	UCW	4,113	CE	7:52P	68	0.05		VL	VL	VL													
10/3/32	UPW	2,713	CE			0.35		3.1 in and	3.1 in and	3.1 in and													
10/3/32	UCW	4,113	CE			0.35		3.1 in and	3.1 in and	3.1 in and													
10/3/32	UPW	2,713	CE	11:50P	11	0.02		0.12	--	--													
10/3/32	UCW	4,113	CE	11:50P	11	0.02		0.12	--	--													
10/11/32	UPW	2,713	CE	2:10A	12	0.04		0.24	--	--													
10/11/32	UCW	4,113	CE	2:10A	12	0.04		0.24	--	--													
10/22/32	UPW	2,713	CE	8:50P	185	0.30		0.24	0.12	VL													
10/22/32	UCW	4,113	CE	8:50P	185	0.30		0.24	0.12	VL													
10/26/32	UPW	2,713	CE	7:30A	45	0.10		0.12	0.12	VL													
10/26/32	UCW	4,113	CE	7:30A	45	0.10		0.12	0.12	VL													
10/31/32	UPW	2,713	CE	10:45A	25	0.03		VL	VL	VL													
10/31/32	UCW	4,113	CE	10:45A	25	0.03		VL	VL	VL													



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH 19 32  
 SHEET 3 OF 3 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 PROJECT LaCrosse, Wisconsin

DATE		WATERSHED		RAINFALL										PRECIPITATION (INCHES P. I.)		RUN-OFF				RAINFALL MEASUREMENT (inches)	DRY LOSS (tons per acre)	CONDITION OF ... ATREACHED
NUMBER	Area (acres)	Camp No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			(10)	(11)	(12)	(13)	(14)	MAXIMUM RATE		(17)	(18)	(19)				
						8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time							
11/1/32	2,713	CE	1:50P	65	0.12	0.24	0.16	0.12	16	37												
11/1/32	4,113	CE	1:50P	65	0.12	0.24	0.16	0.12	16	37												
11/7/32	2,713	CE	1:50P	100	0.11	0.24	0.12	0.10	54	44												
11/7/32	4,113	CE	11:50A	100	0.11	0.24	0.12	0.10	54	44												
11/7/32	2,713	CE	5:47P	705	0.67	0.18	0.20	0.16	54	36												
11/7/32	4,113	CE	5:47P	705	0.67	0.18	0.20	0.16	54	36												
11/9/32	2,713	CE	7:15A	103	0.07	VL	VL	VL	58	36												
11/9/32	4,113	CE	7:15A	103	0.07	VL	VL	VL	58	36												
11/9/32	2,713	CE	12:00N	165	0.51	0.18	0.36	0.32	58	36												
11/9/32	4,113	CE	12:00N	165	0.51	0.18	0.36	0.32	58	36												
11/11/32	2,713	CE			0.09				29	24												
11/11/32	4,113	CE			0.09				29	24												
11/11/32	2,713	CE	3:35P	305	0.71	0.60	0.18	0.15	44	30												
11/11/32	4,113	CE	3:35P	305	0.71	0.60	0.18	0.15	44	30												
12/1/32	2,713	CE	12:35A	373	0.23	VL	VL	VL	35	20												
12/1/32	4,113	CE	12:35A	373	0.23	VL	VL	VL	35	20												
12/11/32	2,713	CE	7:15A	502	0.24	VL	VL	VL	21	13												
12/11/32	4,113	CE	7:15A	502	0.24	VL	VL	VL	21	13												
12/21/32	2,713	CE	5:12A	103	1.01	0.36	0.24	0.13	30	30												
12/21/32	4,113	CE	5:12A	103	1.01	0.36	0.24	0.13	36	30												
12/24/32	2,713	CE	7:20P	17	0.09	0.16	0.15	VL	36	30												
12/24/32	4,113	CE	7:20P	17	0.09	0.16	0.15	VL	36	30												









DATE	W. RECORDING		Open No.	Height (feet)	Direction (number)	Amount (inches)	MAXIMUM INTENSITY				TEMPERATURE (degrees F.)		ICE REPORT				RAINFALL MINUS RUN-OFF (inches)	SAY LOSS (tons per acre)	CONDITION OF WATER/SED								
	Station	Time					5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Froze (hour)	Froze (inches)	MAXIMUM RATE													
														Cu. ft. sec	Time												
1/1/33	UPW	2:13	CS	10:10A	180	0.16	VL	VL	VL	VL	15	4	(13)	(14)	(15)	(16)	(17)	(18)	Underground Cultivated watershed - area had been fall plowed for barley. Surface of ground rough. Plowed on contour. Dirt brown up hill. Ground frozen and covered with snow. Partial thaw occurred on 3/2.								
1/1/33	UPW	2:13	CS	10:10A	180	0.16	VL	VL	VL	VL	15	4										Underground Pasture watershed. Ground frozen and covered with snow. No runoff from ditches.					
1/1/33	UPW	2:13	CS	10:10A	180	0.16	VL	VL	VL	VL	15	4															
1/1/33	UPW	2:13	CS	10:10A	180	0.16	VL	VL	VL	VL	15	4															
1/2/33	UPW	2:13	CS	10:10A	260	0.10	0.36	0.32	0.26	VL	12	32															
1/2/33	UPW	2:13	CS	10:10A	83	0.03	0.12	VL	VL	VL	12	32															
1/2/33	UPW	2:13	CS	2:05A	260	0.60	0.36	0.32	0.26	VL	12	32															
1/2/33	UPW	2:13	CS	10:20A	85	0.04	0.12	VL	VL	VL	12	32															
1/2/33	UPW	2:13	CS	9:10A	723	0.18	0.12	VL	VL	VL	31	19															
1/2/33	UPW	2:13	CS	9:10A	720	0.18	0.12	VL	VL	VL	31	17															
1/2/33	UPW	2:13	CS	1:00P	340	0.27	0.16	0.16	0.12	VL	12	21															
1/2/33	UPW	2:13	CS	1:00P	340	0.27	0.16	0.16	0.12	VL	12	21															
1/2/33	UPW	2:13	CS	2:10A	90	0.06	0.18	0.16	--	VL	10	20															
1/2/33	UPW	2:13	CS	5:10A	90	0.06	0.18	0.16	--	VL	10	20															
1/2/33	UPW	2:13	CS			Snow	No Records	"	"	"	22	-5															
1/2/33	UPW	2:13	CS			0.21	"	"	"	"	-5	-10															
1/2/33	UPW	2:13	CS			0.21	"	"	"	"	22	-5															
1/2/33	UPW	2:13	CS			0.04	No Records	"	"	"	33	-5															
1/2/33	UPW	2:13	CS			0.04	"	"	"	"	33	-5															
1/2/33	UPW	2:13	CS			0.20	VL	VL	VL	VL	39	29															
1/2/33	UPW	2:13	CS			0.20	VL	VL	VL	VL	39	29															
1/2/33	UPW	2:13	CS			0.03					39	27															
1/2/33	UPW	2:13	CS			0.03					39	27															
1/2/33	UPW	2:13	CS	10:35A	60	0.18	0.04	0.18	0.32	VL	30	13															
1/2/33	UPW	2:13	CS	10:35A	60	0.18	0.04	0.18	0.32	VL	30	13															
1/2/33	UPW	2:13	CS	1:15A	100	0.18	0.36	0.28	0.24	VL	13	4															
1/2/33	UPW	2:13	CS	2:15A	100	0.18	0.36	0.28	0.24	VL	13	4															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49	39															
1/2/33	UPW	2:13	CS			0.04					49																





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 1933  
SHEET 2 OF 6 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT La Crosse, Wisconsin

DATE	STATION	WATERSHED	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Temperature (degrees F)	Run-off				Run-off (cfs)	Silt Loss (tons per acre)	CONDITION OF WATERSHED
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)		Begin (hour)	Ended (hour)	Amount (cfs)	MAXIMUM RATE Cu. ft. sec.	Time		
3/14/33	UPW	2-713	CS	9:00A	325	0.20	0.20	0.20	0.19	20							
3/21/33	UPW	4-13	CS	9:15A	325	0.20	0.20	0.20	0.18	39							
3/21/33	UPW	2-713	CS	11:15A	435	0.12	VL	VL	VL	34							
3/21/33	UCW	4-13	CS	11:15A	435	0.12	VL	VL	VL	34							
3/25/33	UPW	2-713	CS			0.21				38							
3/25/33	UCW	4-13	CS			0.21				38							
3/25/33	UPW	2-713	CS	10:00A	35	0.16	0.32	0.32	0.28	42	10:10A	11:55A	0.270	0.018	11:00A		
3/25/33	UPW	2-713	CS	12:17P	133	0.15	0.12	0.12	VL	42				0.019	9:30P		
3/25/33	UPW	2-713	CS	11:50P	64	0.37	0.86	0.18	0.51	42	9:03P	10:10P		0.225	7:15A	0.166	
3/25/33	UPW	2-713	CS	11:10A	100	0.11	0.41	0.48	0.10	41	6:20A	8:24A					
3/25/33	UPW	4-13	CS	10:00A	35	0.16	0.32	0.32	0.28	42							
3/25/33	UPW	4-13	CS	12:17P	133	0.15	0.12	0.12	VL	42							
3/25/33	UPW	4-13	CS	3:45P	64	0.37	0.86	0.18	0.51	42							
3/25/33	UPW	4-13	CS	4:10A	100	0.11	0.34	0.48	0.10	41	6:10A	6:45P	1.980	0.30	2:10P	0.747	
3/25/33	UPW	4-13	CS	1:50A	570	0.27	No Record			40							
3/25/33	UPW	4-13	CS	1:50P	570	0.27				40							
3/25/33	UPW	2-713	CS	12:00A	230	0.39	0.12	0.12	VL	45							
3/25/33	UPW	2-713	CS	1:15P	60	0.12	0.66	0.32	0.22	42							
3/25/33	UPW	2-713	CS	1:10A	100	0.39	0.96	0.60	0.36	41							
3/25/33	UPW	4-13	CS	1:10A	230	0.39	0.12	0.12	VL	45							
3/25/33	UPW	4-13	CS	12:00P	60	0.12	0.66	0.32	0.22	42							
3/25/33	UPW	4-13	CS	1:10A	100	0.39	0.96	0.60	0.36	41							
3/25/33	UPW	4-13	CS	1:10A	100	0.39	0.96	0.60	0.36	41							
3/25/33	UPW	2-713	CS	11:45P	115	0.06	VL	VL	VL	44							
3/25/33	UPW	4-13	CS	11:45P	115	0.06	VL	VL	VL	44							
3/25/33	UPW	2-713	CS	1:00P						80							
3/25/33	UPW	2-713	CS	1:00P						66							
3/25/33	UPW	4-13	CS	1:00P						51							
3/25/33	UPW	4-13	CS	1:00P						51							
3/25/33	UPW	4-13	CS	1:00P						51							
3/25/33	UPW	2-713	CS	2:15P	245	0.53	0.18	0.32	0.28	66							
3/25/33	UPW	4-13	CS	2:15P	245	0.53	0.18	0.32	0.28	66							
3/25/33	UPW	2-713	CS	1:30A	490	0.18	0.24	0.16	0.12	62							
3/25/33	UPW	4-13	CS	1:30A	490	0.18	0.24	0.16	0.12	62							
3/25/33	UPW	2-713	CS	12:18A	147	0.11	0.12	VL	VL	57							
3/25/33	UPW	4-13	CS	12:18A	147	0.11	0.12	VL	VL	57							
3/25/33	UPW	2-713	CS	1:12A	15	0.12	Face Pen Stuck			51							
3/25/33	UPW	4-13	CS	1:12A	15	0.12				51							

Unterraced Cultivated Water-shed - Runoff caused by thaws; Area disc spring-toothed and seeded to barley about April 24-29. Barley about two inches high by May 5.

Note: - Runoff of 3/30 from rain and thawing of accumulated snow.

Thaw

Unterraced pasture watershed - Runoff from thaw and rain on 3/29 and 3/30. Grass giving good growth by May 1. Pasturing not yet started.

from Cap 4



UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 1933  
SHEET 4 OF 6 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

Date	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			TEST RESULTS (mm H <sub>2</sub> O)		RUNOFF		RAINFALL MEASUREMENT (inches)	Silt Loss (tons per acre)	CONDITION OF WATERSHED
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	Ended (hour)	Amount (inches)	On, ft. sec.	Time
6/21/33	UPW	2,713	CS	9:45P	150	1.20	2.64	1.87	1.62	89	68	10:30P	11:40P	.0044	.018	10:37P
6/21/33	UCW	4,113	CS	9:45P	150	1.20	2.64	1.87	1.62	89	68	5:43P	6:18P	.26	.2808	5:58P
6/23/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	86	67	6:37P	7:17P	.26	.30	6:51P
6/23/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	86	67	7:51P	8:50P	.1025	1.14	8:11P
6/24/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	88	65	12:23A	2:12A	.1025	.1016	12:30A
6/24/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	88	65	10:17P	1:35A	.1025	1.44	10:59P
7/1/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	84	67	5:30P	3:18A	.59	5.12	5:43P
7/1/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	84	67					
7/1/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	85	65					
7/1/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	85	65					
7/1/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	86	69	5:16A	4:35A	.007	0.015	3:55A
7/1/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	86	69			.012	Chart Missing	Chart Missing
7/1/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	85	64					
7/1/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	85	64					
7/21/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	87	65	5:30A	7:04A	.050	0.610	5:39A
7/21/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	87	65			.040	Chart Missing	Chart Missing
7/21/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	82	68					
7/21/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	82	68					
7/21/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	77	61	12:14A	2:39A	.005	0.055	12:40A
7/21/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	77	61			.019	Chart Missing	Chart Missing
7/21/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	88	71	4:36P	5:37P	.050	0.380	4:47P
7/21/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	88	71	4:37P	5:38P	.212	2.125	4:44P
8/1/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	68	58					
8/1/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	68	58					
8/10/33	UPW	2,713	CS	9:45P	150	2.18	3.00	1.98	1.14	87	65					
8/10/33	UCW	4,113	CS	9:45P	150	2.18	3.00	1.98	1.14	87	65					

Unterraced pasture watershed - Area being grazed. Grass affords good cover, not grazed, very heavy

Unterraced cultivated watershed - Barley about 12" high - thick stand on June 21. On 6/30 and 7/1 barley was 15" to 20" high good stand. Ground compact, clover, timothy seeding - fair stand about 3 1/2" high. Barley cut week of July 17-22. Good stand of hay July 23, about 5 inches high good cover surface of soil smooth and compact.





[illegible]



W. A. ALEXANDER, JR., PRESIDENT, 9-17323

[illegible]





















## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Peapack  
LaCrosse, Wisconsin

DATE		WATERGAGE		RAINFALL				LANDSLIDE				RUMOR				RAINFALL MINUS TERRACE		SAY LOSS (loss per acre)	
Number	Time (msec)	Queue No.	Direction (msec)	Amount (msec)	MAXIMUM INTENSITY			Maximum (msec)	Minimum (msec)	Amount (msec)	Period (msec)	Amount (msec)	MAXIMUM RATE		RAINFALL MINUS TERRACE	SAY LOSS (loss per acre)			
					Amount (msec)	Direction (msec)	Amount (msec)						Cu. ft. sec.	Time					
1/2/34	2.713	CE	11:50P	0.16	0.12	VL	VL	27	17										
1/2/34	4.13	CE	11:50P	0.16	0.12	VL	VL	27	17										
1/2/34	2.713	CE	10:50A	0.13	0.12	VL	VL	34	30										
1/2/34	4.13	CE	10:50A	0.13	0.12	VL	VL	34	30										
1/2/34	2.713	CE		0.11				22	16										
1/2/34	4.13	CE		0.11				22	16										
1/2/34	2.713	CE	8:00P	0.30	0.12	VL	VL	37	29										
1/2/34	4.13	CE	8:00P	0.30	0.12	VL	VL	37	29										
1/2/34	2.713	CE		0.06	Clock			30	22										
1/2/34	4.13	CE		0.06	Chart			30	22										
1/2/34	2.713	CE		0.10	Not			47	33										
1/2/34	4.13	CE		0.12	Legible			47	33										
1/2/34	2.713	CE	11:45P	0.11	VL	VL	VL	54	26										
1/2/34	4.13	CE	11:45P	0.11				54	14										
1/2/34	2.713	CE		0.01				29	15										
1/2/34	4.13	CE		0.01				29	15										
1/2/34	2.713	CE		0.06				37	22										
1/2/34	4.13	CE		0.06				37	22										
1/2/34	2.713	CE		0.09				31	18										
1/2/34	4.13	CE		0.09				31	18										
1/2/34	2.713	CE		0.25				42	20										
1/2/34	4.13	CE		0.25				42	20										
1/2/34	2.713	CE	6:10A	0.22	0.24	0.12	VL	42	34										
1/2/34	4.13	CE	6:10A	0.22	0.24	0.12	VL	42	34										
1/2/34	2.713	CE	9:05P	0.12	0.24	0.12	VL	54	36										
1/2/34	4.13	CE	9:05P	0.10	0.24	0.16	VL	47	36										
1/2/34	2.713	CE	4:13A	0.43	0.72	0.18	0.32	47	36										
1/2/34	4.13	CE	4:13A	0.12	0.24	0.12	VL	54	36										
1/2/34	2.713	CE	4:13A	0.10	0.24	0.16	0.14	47	36										
1/2/34	4.13	CE	4:13A	0.32	0.72	0.18	0.32	47	36										
1/2/34	2.713	CE		0.04				47	41										
1/2/34	4.13	CE		0.04				47	41										





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH 10 34  
 SHEET 2 OF 6 SHEETS

 PROJECT LeCrosse, Wisconsin  
 -RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Date	Number	Area (acres)	Gage No.	Rain (inches)	Duration (minutes)	Amount (cubic feet)	MAXIMUM INTENSITY			TEMPERATURE			HURD			Rainfall Month (inches)	Run-off (cubic feet)	Soil Loss (tons per acre)	CONDITION OF WATERSHED
							15 minutes	30 minutes	60 minutes	Maximum	Minimum	Hourly	Peak	Amount	Time				
							(inches per hour)	(inches per hour)	(inches per hour)	(inches per hour)	(inches per hour)	(inches per hour)	(inches per hour)	(cubic feet)	(cubic feet)				
6/1/34	UPW	2,713	CE	11:00A	210	0.24	0.12	VL	VL	17	34	12	13	14	16	17	18		Untersced cultivated watershed. Poor stand of mixed hay affords fair cover, ground smooth.
6/1/34	UCW	2,355	CE	11:30A	210	0.12	0.12	VL	VL	17	34								compact. Lower third of area moderately cultivated from preceding year. A rubble concrete lining was placed in the concentrating channel on June 18 and 19.
6/1/34	UPW	2,713	CE	1:00P	30	0.05				71	45								
6/1/34	UCW	2,355	CE	1:30P	30	0.05				71	45								
6/2/34	UPW	2,713	CE	7:10A	45	0.02	0.12	VL	VL	103	28								
6/2/34	UCW	2,355	CE	7:40A	45	0.02	0.12	VL	VL	103	28								
6/2/34	UPW	2,713	CE	9:00A	30	0.02		VL	VL	91	56								
6/2/34	UCW	2,355	CE	9:30A	30	0.02		VL	VL	91	56								
6/3/34	UPW	2,713	CE	1:10P	235	0.67	1.20	0.44	0.44	63	103								
6/3/34	UCW	2,355	CE	1:40P	235	0.67	1.20	0.44	0.44	63	103								
6/3/34	UPW	2,713	CE	2:15A	150	0.20	0.24	VL	VL	85	67								
6/3/34	UCW	2,355	CE	2:45A	150	0.20	0.24	VL	VL	85	67								
6/3/34	UPW	2,713	CE	12:1A	25	0.06	0.20	0.20	0.20	80	45								
6/3/34	UCW	2,355	CE	1:14A	25	0.06	0.20	0.20	0.20	80	45								
6/3/34	UPW	2,713	CE	8:15P	185	0.46	0.96	0.28	0.28	92	64								
6/3/34	UCW	2,355	CE	8:45P	185	0.36	0.96	0.28	0.28	88	64								
6/3/34	UPW	2,713	CE	4:15P	40	0.15	0.18	0.28	0.28	80	64								
6/3/34	UCW	2,355	CE	4:45P	40	0.15	0.18	0.28	0.28	80	64								
6/3/34	UPW	2,713	CE	6:15P	160	0.78	1.20	1.08	1.08	77	103								
6/3/34	UCW	2,355	CE	6:45P	160	0.78	1.20	1.08	1.08	77	103								
6/4/34	UPW	2,713	CE	3:15P	155	0.49	0.96	0.72	0.72	83	56								
6/4/34	UCW	2,355	CE	3:45P	155	0.49	0.96	0.72	0.72	83	56								
6/4/34	UPW	2,713	CE	1:15A	150	0.03	0.24	0.16	0.16	77	58								
6/4/34	UCW	2,355	CE	1:45A	150	0.08	0.24	0.16	0.16	77	58								
6/4/34	UPW	2,713	CE	6:15P	160	0.78	1.20	1.08	1.08	77	103								
6/4/34	UCW	2,355	CE	6:45P	160	0.78	1.20	1.08	1.08	77	103								
6/5/34	UPW	2,713	CE	4:00P	60	0.32	0.84	0.40	0.40	96	66								
6/5/34	UCW	2,355	CE	4:30P	72	0.27	2.24	1.30	1.30	96	66								
6/5/34	UPW	2,713	CE	4:00P	60	0.32	0.84	0.40	0.40	96	66								
6/5/34	UCW	2,355	CE	4:30P	72	0.27	2.24	1.30	1.30	96	66								
6/5/34	UPW	2,713	CE	7:15P	72	0.67	2.24	1.30	1.30	96	66								
6/5/34	UCW	2,355	CE	7:45P	72	0.67	2.24	1.30	1.30	96	66								
6/5/34	UPW	2,713	CE	7:15P	72	0.67	2.24	1.30	1.30	96	66								
6/5/34	UCW	2,355	CE	7:45P	72	0.67	2.24	1.30	1.30	96	66								

 Untersced Pasture Watershed.  
 This area was not pastured during 1934. Grass has good start afforded fair cover.



# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

W.A. Gentry et al. / *Mining Engineering* 9 (1989) 1-6[illegible]





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 1934  
SHEET 4 OF 6 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

WATERSHED			RAINFALL										MAXIMUM INTENSITY				THUNDERING (approx. ft.)		RUN-OFF				RAINFALL MINUS INFILTRATION (inches)	Run Loss (tons per acre)	CONDITION OF WATERSHED
Date	Number	Area (acres)	Stage No.	Begin (approx)	Duration (minutes)	Amount (inches)	8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	End (hour)	Amount (inches)	Maximum Rate (cu ft. sec)	Time	Begin (hour)	End (hour)	Amount (inches)	Run Loss (tons per acre)					
8/15/34	UPW	2,713	CE	8:53P	37	0.43	Recorder not working			58	58	8:56P	9:15P	0.0202	0.47	9:08P			0.1098	0.028	Unterraced Cultivated Watershed - Poor stand of mixed hay cut Aug. 22. Before storm of Sept. 2 surface soil was moist - subsoil very dry. Field moderately gullied.				
8/15/34	UCW	2,435	CE	8:33P	37	0.13	Chart spilled			58	58														
8/21/34	UPW	2,713	CE			0.15	Gage not working			79	78										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/21/34	UCW	2,435	CE			0.15	"			79	78														
8/23/34	UPW	2,713	CE	7:00A	240	0.16	"			78	78										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/23/34	UCW	2,435	CE	7:00A	240	0.16	"			78	78														
8/30/34	UPW	2,713	CE	4:10P	85	0.20	0.24	0.16	0.16	71	61	3:10P	4:22P	.08	1.11	3:26P			1.00	0.036	Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,713	CE	4:30P	135	0.47	0.24	0.16	0.12	72	54	6:12A	9:32A	.05	.16	7:07A			1.79						
8/30/34	UPW	2,713	CE	1:40P	160	0.16	0.18	0.20	1.49	80	61	2:50P	4:10P	.22	1.93	3:17P			.86		Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	1:40P	160	0.16	0.18	0.20	1.49	80	54	6:08A	9:30A	.22	.61	6:50A			1.62	0.216					
8/30/34	UPW	2,713	CE	1:40P	160	0.16	0.18	0.20	1.49	80	54										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	1:40P	160	0.16	0.18	0.20	1.49	80	54														
8/30/34	UPW	2,713	CE	11:00A	25	0.04	0.24	0.14		71	47										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,713	CE	11:00A	25	0.04	0.24	0.14		71	47														
8/30/34	UPW	2,713	CE	7:00A	10	0.18	1.02			71	47										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	7:00A	10	0.04	0.24	0.14		71	47														
8/30/34	UPW	2,713	CE	11:00A	25	0.04	0.24	0.14		71	47										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	11:00A	25	0.04	0.24	0.14		71	47														
8/30/34	UPW	2,713	CE	10:27P	900	0.09	0.36	0.24	0.16	73	60										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	10:27P	900	0.09	0.36	0.24	0.16	73	60														
8/30/34	UPW	2,713	CE	4:30A	155	0.09	0.12	VL	VL	60	53										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	4:30A	155	0.09	0.12	VL	VL	60	53														
8/30/34	UPW	2,713	CE	9:27P	136	0.14	0.12	VL	VL	55	51	5:20P	6:10P	0.0117	0.04	5:50P			0.5983	0	Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	9:27P	136	0.14	0.12	VL	VL	55	51	5:15P	7:30P	0.1131	1.18	5:19P			0.1669	0.252					
8/30/34	UPW	2,713	CE	4:10P	75	0.63	1.20	0.76	0.64	65	45										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	4:10P	75	0.17	0.72	0.44	--	65	45														
8/30/34	UPW	2,713	CE	4:10P	75	0.63	1.20	0.76	0.64	65	45										Unterraced Pasture Watershed - Fair pasture cover but not pastured. Before storm of Sept. 2 surface soil moist but subsoil very dry.				
8/30/34	UCW	2,435	CE	4:10P	75	0.17	0.72	0.44	--	65	45														



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH 10/24  
 SHEET 5 OF 6 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 Project LaGrange, Wisconsin

U. S. DEPARTMENT OF AGRICULTURE, DIVISION OF RESEARCH

WATERGAGE			RAINFALL				TEMPERATURE (degrees F)				RUN-OFF				RAINFALL Meters (inches)	Run Low (feet per acre)	Comments on Watershed
No.	Area (acres)		Gage No.	Height (feet)	Duration (minutes)	Amount (inches)	5 minutes (feet per hour)	15 minutes (feet per hour)	30 minutes (feet per hour)	Maximum	Minimum	Height (feet)	Amount (inches)	Maximum Rate (inches)			
2713	UPW	2,713	CE	4:50A	95	0.21	0.72	0.44	0.14	71	71	71	0.16	3:57P	2.2114	0.005	Untersaced Cultivated Watershed - Area plowed Sept. 24, 27, and 28. Area was plowed on contour and dirt thrown uphill. Plowed surface left rough not worked down.
2713	UPW	2,713	CE	7:40A	7	0.04	0.45	0.64	0.34	71	71	71	0.05	3:10P	0.005		
2713	UPW	2,713	CE	3:30P	295	1.14	2.16	1.38	0.52	71	71	71	0.08	5:17A	0.005		
2713	UPW	2,713	CE	3:10P	605	1.21	0.60	0.52	0.34	71	71	71	0.16	7:00P	0.005		
2713	UPW	2,713	CE	4:50A	95	0.21	0.72	0.44	0.34	71	71	71	0.05	3:10P	0.005		
2713	UPW	2,713	CE	7:40A	7	0.04	0.45	0.64	0.34	71	71	71	0.08	6:42A	0.005		
2713	UPW	2,713	CE	3:30P	295	1.14	2.16	1.38	0.52	71	71	71	0.16	8:00P	0.005		
2713	UPW	2,713	CE	3:10P	605	1.21	0.60	0.52	0.34	71	71	71	0.16	11:27P	0.005		
2713	UPW	2,713	CE	4:50A	90	0.09	0.36	0.16	0.12	54	32	32	0.19	4:05A	1.658		
2713	UPW	2,713	CE	7:40A	90	0.09	0.36	0.16	0.12	54	32	32	0.19	4:05A	1.658		
2713	UPW	2,713	CS			0.01	0.01			72	33	33					
2713	UPW	2,713	CS	7:15P	294	0.97	2.16	1.81	1.45	57	39	39	1.57	11:58P	0.83	0.039	
2713	UPW	2,713	CS	2:00A	255	0.74	1.92	1.12	0.70	73	42	42	0.66	4:27A	0.63	0.039	
2713	UPW	2,713	CS	7:15P	294	0.97	2.16	1.81	1.45	57	39	39	0.56	11:58P	0.90	0.275	Untersaced Pasture Watershed - Pair pasture cover not pastured.
2713	UPW	2,713	CS	2:00A	255	0.74	1.92	1.12	0.70	73	42	42	0.26	4:30A	0.60	0.275	
2713	UPW	2,713	CE	5:18P	102	1.05	1.04	0.80	0.80	67	45	45	0.23	11:18P	0.9799	0.010	
2713	UPW	2,713	CE	9:18P	102	1.05	1.04	0.80	0.80	67	45	45	0.22	10:45P	0.9169	0.010	
2713	UPW	2,713	CE	2:00A	1100	1.33	0.21	0.20	0.16	41	35	35	0.04	11:40P	1.3110	0.009	
2713	UPW	2,713	CE	2:00A	1100	1.33	0.21	0.20	0.16	41	35	35	0.04	11:40P	1.3110	0.009	
2713	UPW	2,713	CE	11:55P	385	0.58	0.12	0.32	0.18	55	25	25					
2713	UPW	2,713	CE	8:00A	50	0.20	0.36	0.26	0.26	57	25	25					
2713	UPW	2,713	CE	11:55P	385	0.58	0.12	0.32	0.18	55	25	25					
2713	UPW	2,713	CE	8:00A	50	0.20	0.36	0.26	0.26	57	25	25	0.02	1:00A	0.5797	0.006	
2713	UPW	2,713	CE	11:55A	95	0.29	1.68	0.76	0.10	50	43	43	0.06	9:00A	0.1720	0.006	
2713	UPW	2,713	CE	10:00P	760	0.84	0.18	0.24	0.12	56	43	43			1.1220	0.001	
2713	UPW	2,713	CE	11:55A	95	0.29	1.68	0.76	0.10	50	43	43			1.1220	0.001	
2713	UPW	2,713	CE	10:00P	760	0.84	0.18	0.24	0.12	56	43	43	0.23	1:10P	0.7975	0.168	
2713	UPW	2,713	CE	10:00P	760	0.84	0.18	0.24	0.12	56	43	43	0.03	4:55A	0.7975	0.168	





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 PROJECT Lacrosse, Wisconsin  
 S. S. SHEET NO. 1034

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 MONTH 1034  
 SHEET 6 OF 6 SHEETS

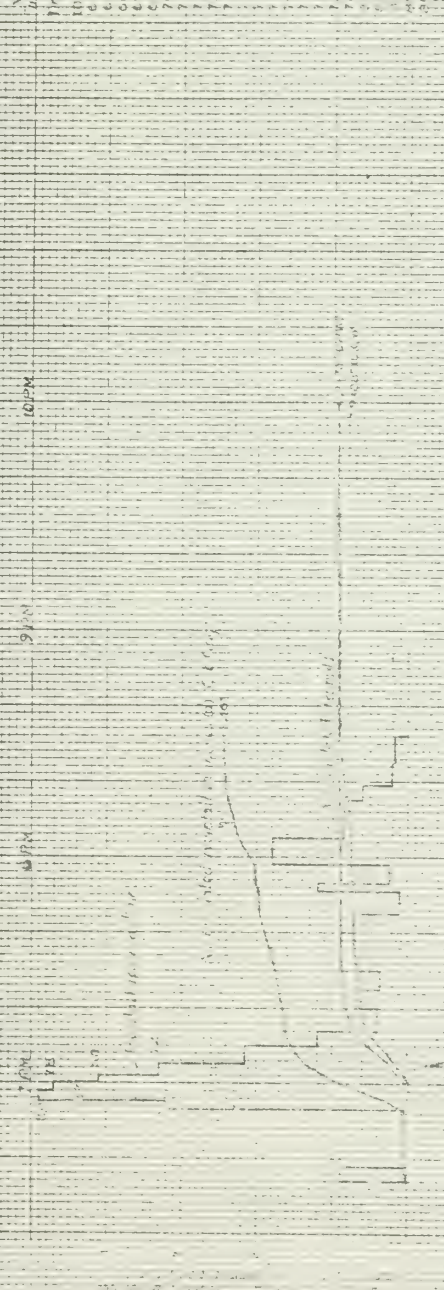
Date	Watershed		Rainfall				Temperature (degrees F.)				Run-off			Runoff Minus Runoff (inches)	Soil Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum (inches)	Minimum (inches)	Peak (hour)	Amount (inches)	Maximum Rate Cu. ft. sec. (16)	Time (16)	
11/21/34	UPW	2,713	CE	12:04A	5	0.02	0.21	--	--	46	44	No Chart	0.0015			Unterraced Cultivated Watershed. Area had been Fall plowed on contour dirt thrown uphill.
11/21/34	UPW	2,713	CE	9:45P	995	1.08	0.24	0.16	VL	46	44					
11/21/34	UPW	2,713	CE	12:04A	5	0.02	0.24	--	--	46	44					
11/21/34	UPW	2,713	CE	9:45P	995	1.08	0.24	0.16	VL	46	44					
11/22/34	UPW	2,713	CE							30	28	6:27A	0.1153	0.01	11:00P	
11/26/34	UPW	2,713	CE			0.18	Snow melted in Funnel			31	31					Unterraced Pasture Watershed. Fair pasture not matured, good growth, standing on upper 2/5 of area.
11/26/34	UPW	2,713	CE			0.18				31	31					
11/27/34	UPW	2,713	CE	9:150P						37	31					
11/28/34	UPW	2,713	CE		250	0.15	0.18	0.24	0.20	34	30					
11/28/34	UPW	2,713	CE	9:45P	250	0.15	0.18	0.24	0.20	34	30					
11/29/34	UPW	2,713	CE			0.04				30	27					Unterraced Pasture Watershed. Fair pasture not matured, good growth, standing on upper 2/5 of area.
11/29/34	UPW	2,713	CE			0.04				30	27					
11/29/34	UPW	2,713	CE	No Gage record.		Snow measured 36"				30	28					
11/29/34	UPW	2,713	CE			0.06				30	28					
11/29/34	UPW	2,713	CE	No Gage record.		Snow measured 12.35"				30	28					
12/1/34	UPW	2,713	CE			0.15				21	7					Unterraced Pasture Watershed. Fair pasture not matured, good growth, standing on upper 2/5 of area.
12/1/34	UPW	2,713	CE			0.15				21	7					
12/1/34	UPW	2,713	CE			0.02				9	-6					
12/1/34	UPW	2,713	CE			0.02				9	-6					
12/1/34	UPW	2,713	CE	Trace of snow						14	8					
12/4/34	UPW	2,713	CE							14	8					Unterraced Pasture Watershed. Fair pasture not matured, good growth, standing on upper 2/5 of area.
12/4/34	UPW	2,713	CE	Trace of snow						14	8					
12/4/34	UPW	2,713	CE							30	19					
12/4/34	UPW	2,713	CE							30	19					
12/4/34	UPW	2,713	CE			0.02				30	25					
12/4/34	UPW	2,713	CE			0.02				30	25					Unterraced Pasture Watershed. Fair pasture not matured, good growth, standing on upper 2/5 of area.
12/4/34	UPW	2,713	CE			0.05				25	9					
12/4/34	UPW	2,713	CE			0.05				25	9					
12/4/34	UPW	2,713	CE			0.07				20	5					
12/4/34	UPW	2,713	CE			0.07				20	5					



JULY 6 1934

JULY 13 1934

Time	Alt	Temp	Wind	Bar	Notes
0600	100	60.0	0	30.0	Clear
0700	100	60.0	0	30.0	Clear
0800	100	60.0	0	30.0	Clear
0900	100	60.0	0	30.0	Clear
1000	100	60.0	0	30.0	Clear
1100	100	60.0	0	30.0	Clear
1200	100	60.0	0	30.0	Clear
1300	100	60.0	0	30.0	Clear
1400	100	60.0	0	30.0	Clear
1500	100	60.0	0	30.0	Clear
1600	100	60.0	0	30.0	Clear
1700	100	60.0	0	30.0	Clear
1800	100	60.0	0	30.0	Clear
1900	100	60.0	0	30.0	Clear
2000	100	60.0	0	30.0	Clear
2100	100	60.0	0	30.0	Clear
2200	100	60.0	0	30.0	Clear
2300	100	60.0	0	30.0	Clear
2400	100	60.0	0	30.0	Clear

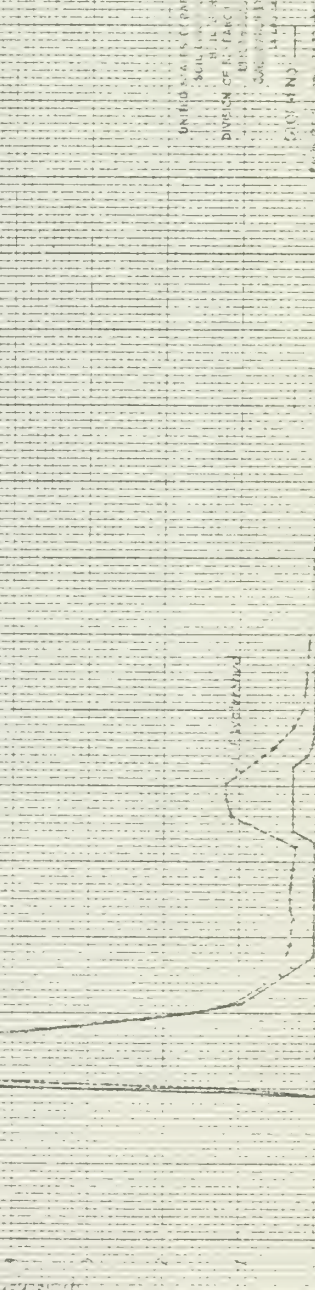


UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
DIVISION OF HORTICULTURE  
WASHINGTON, D. C.

REPORT OF THE  
COMMISSIONER OF PLANT INDUSTRY  
FOR THE YEAR 1934

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
DIVISION OF HORTICULTURE  
WASHINGTON, D. C.

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COMMISSIONER OF PLANT INDUSTRY  
FOR THE YEAR 1934

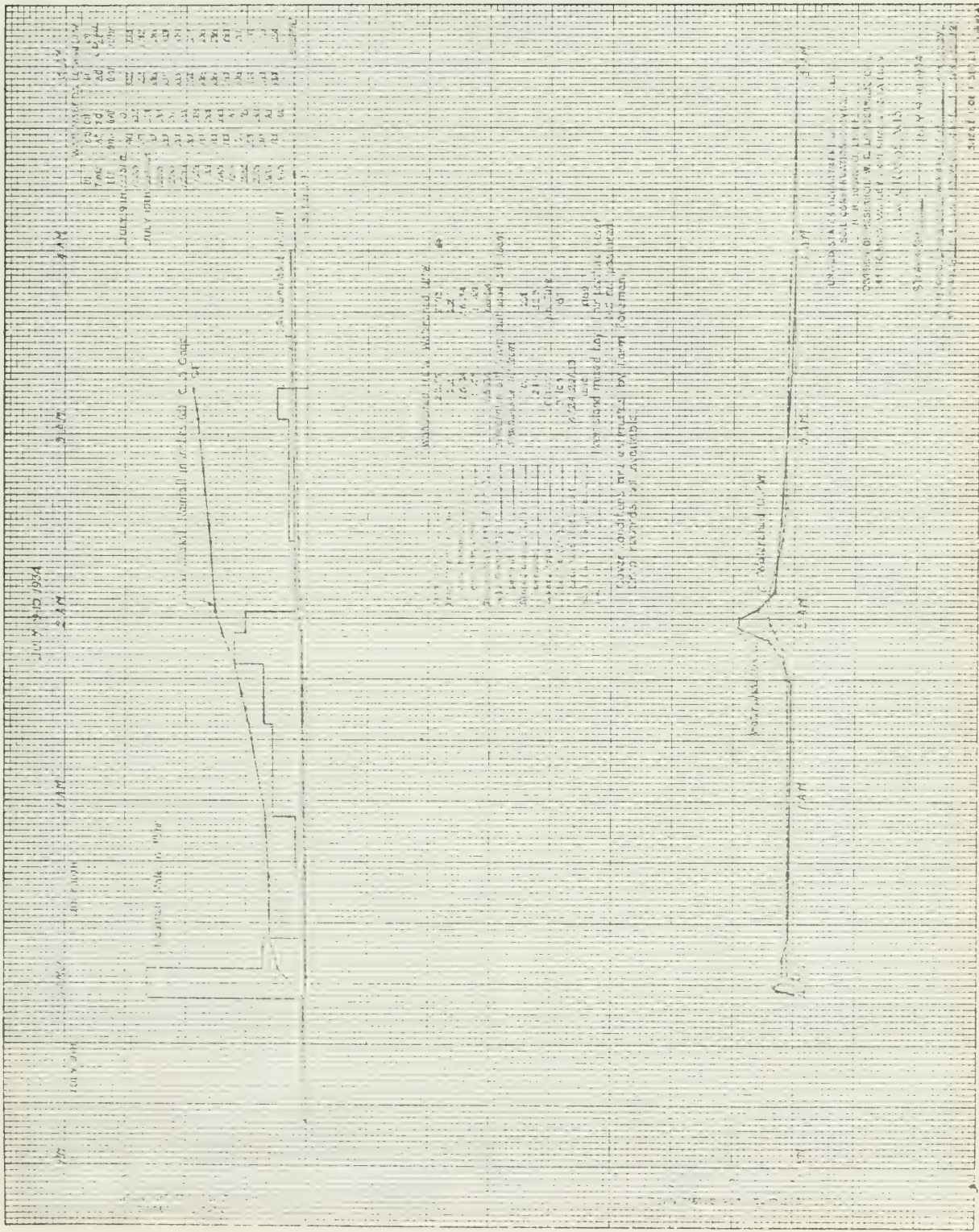


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FOR THE YEAR 1934











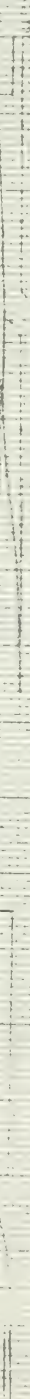










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1. The first part of the document is a title page. It contains the title "THE HISTORY OF THE UNITED STATES OF AMERICA" and the author "BY JAMES MADISON".























UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 1935  
SHEET 1 OF 9 NINETEEN

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

DATE	STATIONED		RAINFALL				TEMPERATURE (degrees F.)				RUNOFF				RAINFALL MINOR RUNOFF (inches)	STP LOSS (tons per acre)	CONDITION OF WATERBOD	
	Number	Area (acres)	Gage No.	Basin (acres)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)					Cu. ft. sec.				Tons
1/8/35	UPW	2,412	CE			0.06	Trace	0.06	33	32							Unterraced Cultivated Watershed. Area had been Fall plowed on 8/10, 21, 27, and 28. 102, 104, plowing was done on contour with two-way plow throwing earth uphill. The area in this rough plowed condition afforded considerable surface storage. Ground covered with snow and frozen during this period. Thaw of 3/4 from accumulation of snow.	
1/8/35	UCW	2,335	CE			0.06	Snow "	0.06	33	32								
1/9/35	UPW	2,412	CE			0.11	"	0.11	32	30								
1/9/35	UCW	2,335	CE			0.11	"	0.11	32	30								
1/10/35	UPW	2,412	CE			0.25	"	0.25	25	23								
1/10/35	UCW	2,335	CE			0.25	"	0.25	25	23								
1/12/35	UPW	2,412	CE			0.33	"	0.33	28	10								
1/12/35	UCW	2,335	CE			0.33	"	0.33	28	10								
1/14/35	UPW	2,412	CE			Trace	Snow "	Trace	-1	-12								
1/14/35	UCW	2,335	CE			Trace	Snow "	Trace	-1	-12								
1/16/35	UPW	2,412	CE			0.66	"	0.66	31	-3								
1/16/35	UCW	2,335	CE			0.66	"	0.66	31	-3								
1/19/35	UPW	2,412	CE			0.44	"	0.44	32	-1								
1/19/35	UCW	2,335	CE			0.44	"	0.44	32	-1								
1/20/35	UPW	2,412	CE			Trace	Snow "	Trace	34	-2								
1/20/35	UCW	2,335	CE			Trace	Snow "	Trace	34	-2								
1/22/35	UPW	2,412	CE			"	"	"	41	-21								
1/22/35	UCW	2,335	CE			"	"	"	41	-21								
2/2/35	UPW	2,412	CE			0.06	"	0.06	36	21								
2/2/35	UCW	2,335	CE			0.06	"	0.06	36	21								
2/11/35	UPW	2,412	CE			0.14	"	0.14	33	27								
2/11/35	UCW	2,335	CE			0.14	"	0.14	33	27								
2/21/35	UPW	2,412	CE			0.30	"	0.30	20	23								
2/21/35	UCW	2,335	CE			0.30	"	0.30	20	23								
3/3/35	UPW	2,412	CE			0.57	"	Recorder Gauge not set	40	17								
3/3/35	UCW	2,335	CE			0.57	"	Recorder Gauge not set	40	17								
3/4/35	UPW	2,412	CE			0.02	VL	VL	40	20								
3/4/35	UCW	2,335	CE			0.02	VL	VL	40	20								
3/7/35	UPW	2,412	CE			0.28	"	0.28	46	16								
3/7/35	UCW	2,335	CE			0.28	"	0.28	46	15								
3/11/35	UPW	2,412	CE			Trace	Snow "	Trace	43	24								
3/11/35	UCW	2,335	CE			Trace	Snow "	Trace	43	24								

Unterraced pasture watershed - Area had not been graded during 1934. There was a tall dense stand of vegetation at beginning of year. Ground covered with snow and frozen during this period. There was no runoff during this period.

THAW

0.019

0.06 3.50P

9.30A 6.10P 0.1377

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UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH
MONTH 1935SHEET 2 OF 9 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LeCrosse, WI record;

DATE	WATERSHED		RAINFALL										TEMPERATURE (F)				RUN-OFF				8 IN. LOSS (tons per acre)	CONDITION OF WATERBED
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE		Rainfall Minor (inches)					
							2 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. per sec.	Time						
3/13/35	UPW	2,112	CE							54	15							(18)	Unterraced Cultivated Watershed - Area had been fall plowed, 3/16 4" unfrozen and saturated frozen below 4". Area was not cultivated during this period.			
3/13/35	UCW	2,335	CE		Trace Snow	0.16				58	15							(17)				
3/16/35	UPW	2,112	CE			0.16	Rain & Sleet. Chart removed			49	32											
3/16/35	UCW	2,335	CE			0.16				49	32											
3/20/35	UPW	2,112	CE	3:00P	120	0.07	0.24	0.20	VL	57	34								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
3/20/35	UCW	2,335	CE	3:00P	120	0.07	0.24	0.20	VL	57	34											
3/22/35	UPW	2,112	CE	8:10A	170	0.16	0.36	0.20	0.16	36	46											
3/22/35	UCW	2,335	CE	8:10A	170	0.16	0.36	0.20	0.16	36	46											
3/24/35	UPW	2,112	CE	4:15P	25	0.14	0.72	0.48	--	57	34							0.0110	Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
3/24/35	UCW	2,335	CE	4:15P	25	0.14	0.72	0.48	--	57	34	4:37P	4:58P	0.005	0.13	4:45P	0.14					
3/26/35	UPW	2,112	CE	7:10P	205	0.05	VL	VL	VL	60	36											
3/26/35	UCW	2,335	CE	7:10P	205	0.05	VL	VL	VL	60	36											
4/1/35	UPW	2,112	CE	10:30A	180	0.05	VL	VL	VL	34	29								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/1/35	UCW	2,335	CE	10:30A	180	0.05	VL	VL	VL	34	29											
4/3/35	UPW	2,112	CE			0.02	No Record			38	28											
4/3/35	UCW	2,335	CE			0.02	Rain & Snow			38	28											
4/10/35	UPW	2,112	CE	3:15P	1095	1.15	0.24	0.20	0.16	49	36								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/10/35	UCW	2,335	CE	3:15P	1015	1.15	0.24	0.20	0.16	39	36											
4/13/35	UPW	2,112	CE	4:00A	60	0.08	0.36	0.24	0.14	41	41											
4/13/35	UCW	2,335	CE	4:00A	20	0.02	VL	VL	--	54	41											
4/13/35	UPW	2,112	CE	5:10P	195	0.31	0.36	0.18	0.18	54	41								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/13/35	UCW	2,335	CE	5:10P	60	0.08	0.36	0.24	0.14	54	41											
4/15/35	UPW	2,112	CE	3:10P	20	0.02	VL	VL	--	54	41											
4/15/35	UCW	2,335	CE	3:10P	195	0.31	0.36	0.18	0.18	54	41											
4/25/35	UPW	2,112	CE	9:15P	220	0.26	0.96	0.36	0.18	74	52								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/25/35	UCW	2,335	CE	9:15P	95	0.15	0.36	0.24	0.16	74	52											
4/26/35	UPW	2,112	CE	5:00A	90	0.17	0.36	0.24	0.16	75	56											
4/26/35	UCW	2,335	CE	5:00A	220	0.26	0.96	0.36	0.18	74	52											
4/26/35	UPW	2,112	CE	2:25A	95	0.15	0.36	0.24	0.16	74	52								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/26/35	UCW	2,335	CE	2:25A	90	0.17	0.36	0.24	0.16	75	56											
4/26/35	UPW	2,112	CE	5:00P	25	0.10	3.12	1.18	--	75	56											
4/26/35	UCW	2,335	CE	5:00P	25	0.10	3.12	1.18	--	75	56	5:03P	5:44P	0.056	0.88	5:11P	0.34	0.160				
4/27/35	UPW	2,112	CE			0.04	Gauge set incorrectly			64	53								Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.			
4/27/35	UCW	2,335	CE			0.04	"			64	53											

Unterraced Cultivated Watershed - Area had been Fall plowed, 3/16 4" unfrozen and saturated frozen below 1 1/2". Area was not cultivated during this period.

Unterraced Pasture Watershed - Area had not been grazed in 1934. Vegetation tall and dense excellent cover. There was no runoff during this period.





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

MONTH \_\_\_\_\_, 1935

SHEET 3 OF 9 SHEETS

 PROJECT LeCrosse, Wisconsin  
 RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

WATERSHED			RAINFALL				TEMPERATURE (degrees F.)				RUN-OFF				RAINFALL MINUS Run-off (inches)	SOIL LOSS (tons per acre)	CONDITION OF WATERSHED	
Date	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	4 minutes (inches per hour)	8 minutes (inches per hour)	15 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	Ended (hour)	Amount (cubic)				Maximum Rate Cu. ft. sec.
4/20/35	UPW	2,412	CE			0.04	Gauge	Set incorrectly		48	39							Unterraced Cultivated Watershed - 5/1 snow in flume complete record not obtained. 5/2 area has disc. 5/21 corn planted on contour. 5/24 cultivated on contour 6/1 corn coming through ground.
4/20/35	UCW	2,335	CE			0.41	"	"	"	48	39							
5/1/35	UPW	2,412	CE	10:00A	5:00	0.58	Snow	"	"	37	35	1:55P		0.0094			0.57	
5/1/35	UCW	2,412	CE	10:00A	6:00	0.51	"	"	"	39	32						0.001	
5/3/35	UPW	2,412	CE			0.67	Snow & Ice	Gauge funnel choked		43	28							
5/3/35	UCW	2,335	CE			0.47	"	"	"	39	32							
5/3/35	UPW	2,335	CE			0.42	"	"	"	43	28							
5/3/35	UCW	2,335	CE			0.42	"	"	"	43	28							
5/3/35	UPW	2,412	CE			0.67	Thaw			58	32	10:54A	7:20P	0.0303	0.04	4:50P	0.003	
5/3/35	UCW	2,412	CE			0.7	No record			63	49							
5/3/35	UPW	2,412	CE	7:30A	3:00	0.60	0.36	0.20	0.16	59	45							Unterraced Pasture Watershed - Varietation tall and dense - excellent cover. No runoff during this period.
5/3/35	UCW	2,412	CE	12:15A	2:5	0.53	1.20	0.56	0.36	59	47							
5/3/35	UPW	2,335	CE	7:30A	3:00	0.60	0.36	0.20	0.16	59	45							
5/3/35	UCW	2,335	CE	12:15A	2:55	0.78	1.20	0.56	0.36	59	47	3:09A	5:30A	0.0104	0.06	3:10A	0.090	
5/3/35	UPW	2,412	CE			0.67	No Record. Contender binding on funnel			54	38							
5/3/35	UCW	2,335	CE			0.7	"	"	"	54	38							
5/3/35	UPW	2,412	CE	1:12A	1:10	0.50	0.41	0.18	0.08	65	50							
5/3/35	UCW	2,412	CE	7:57P	7:00	0.78	3.72	1.84	1.20	65	50							
5/3/35	UPW	2,412	CE	10:25P	1:00	0.51	0.18	0.24	0.20	55	50							
5/3/35	UCW	2,412	CE	1:13A	1:00	0.58	0.41	0.18	0.08	55	50							
5/3/35	UPW	2,335	CE	7:57P	7:00	0.78	3.72	1.84	1.20	65	50	8:00P	9:10P	0.0655	0.66	8:55P	0.72	2.042
5/3/35	UCW	2,335	CE	10:25P	1:00	0.51	0.18	0.24	0.20	65	50							
5/3/35	UPW	2,412	CE			0.51	0.41	0.24	0.20	71	54							
5/3/35	UCW	2,412	CE	1:50A	1:50	0.12	0.24	0.12	0.12	54	49							
5/3/35	UPW	2,412	CE	2:10P	50	0.06	0.12	0.12	0.12	76	68							
5/3/35	UCW	2,412	CE	4:50P	45	0.24	0.60	0.36	0.34	76	68							
5/3/35	UPW	2,335	CE	2:10P	50	0.06	0.12	0.12	0.12	76	68							
5/3/35	UCW	2,335	CE	4:50P	45	0.12	0.12	0.12	0.12	76	68							
5/3/35	UPW	2,335	CE	7:10P	15	0.12	0.12	0.12	0.12	76	68	5:38P	6:55P	0.0039	0.02	6:05P	0.35	0.006
5/3/35	UCW	2,335	CE	7:10P	15	0.12	0.12	0.12	0.12	76	68							









PROJECT  
LaCrosse, Wisconsin

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 5 OF 9 ANCEST6

WATERSHED			RAINFALL				TEMPERATURE (degrees F.)				HUMIDITY					BLUETAIL MILES (hours)		Soil Loss (ton per acre)	COMMENTS ON WATERSHED
Date	Number	Area (acres)	Oage No.	Begin (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	Amount (inches)	Maximum Rate Cu. ft. sec.	Time	Relative			
7/5/35	UPW	2.12	CE	5:49A	112	1.79	2.38	2.80	2.30	86	66	6:03A	0.0403	0.30	6:53A	1.75	0.036	Unterraced cultivated watershed - last cultivated on June 29. July 5 surface soil and subsoil moist. Corn about 8 inches tall, with rows on or close to contact. Corn cultivated July 16. Concentrate concentrating channel raised July 15-17. Aug. 2 surface soil and subsoil moist, and compact. Corn about 5 ft. high.	
7/5/35	UPW	2.12	CE	5:47P	8	0.08	0.41	2.30	2.30	86	66	5:50A	1.050	10.400	5:00A	0.33	51.157		
7/5/35	UCW	2.335	CE	5:49A	112	1.79	2.38	2.30	2.30	86	66	6:14P	0.050	0.51	6:13P	0.09	0.322		
7/5/35	UCW	2.335	CE	5:47P	9	0.08	0.41	--	--	86	66								
7/11/35	UPW	2.12	CE	2:15P	166	0.7	0.34	--	--	82	61								
7/11/35	UCW	2.335	CE	2:15P	165	0.7	0.34	--	--	82	61								
7/11/35	UPW	2.12	CE	5:08A	10	0.12	1.40	--	--	88	70								
7/11/35	UPW	2.12	CE	5:20A	10	0.14	0.75	--	--	88	70								
7/11/35	UPW	2.12	CE	5:08A	10	0.14	1.40	--	--	88	70								
7/11/35	UCW	2.335	CE	2:10A	10	0.11	1.05	0.10	VL	85	69								
7/11/35	UPW	2.12	CE	5:15P	30	0.04	0.12	VL	VL	85	69								
7/11/35	UCW	2.335	CE	2:40A	10	0.11	1.08	0.10	VL	85	69								
7/11/35	UCW	2.335	CE	5:15P	30	0.04	0.12	VL	VL	85	69								
7/11/35	UPW	2.12	CE	3:05A	25	0.10	0.26	0.14	VL	73	73	12:15P	1:09P	0.56	12:50P	0.70	0.006	Unterraced pasture watershed - July 5 surface soil and subsoil in moist condition. Not pastured. Cut for hay June 11. Vegetation on lower area 12-16" tall and quite dense. Upper half another was cut about 17. Grazing was started July 17. Aug. 2, moist soil condition. Vegetation quite tall and dense.	
7/11/35	UCW	2.335	CE	3:05A	25	0.10	0.26	0.14	VL	73	73	12:15P	1:10P	0.0953	12:52P	0.62	2.225		
7/11/35	UPW	2.12	CE	4:15A	40	0.04	VL	VL	VL	89	73								
7/11/35	UCW	2.335	CE	4:15A	40	0.04	VL	VL	VL	89	73								
7/11/35	UPW	2.12	CE	5:11A	15	0.10	0.24	0.14	0.22	87	64								
7/11/35	UCW	2.335	CE	5:11A	15	0.10	0.24	0.14	0.22	87	64								
7/11/35	UPW	2.12	CE	11:55P	405	2.74	3.24	2.40	1.74	85	66	2:01A	6:16A	0.3056	1.93	4:12A	2.15	0.032	
7/11/35	UCW	2.335	CE	11:55P	405	2.74	3.24	2.40	1.74	85	66	2:52A	5:20A	0.0566	5.12	4:30A	1.88	23.169	
8/2/35	UPW	2.12	CP	11:57P	43	1.36	3.12	2.28	1.98	85	63	12:09A	12:57A	0.1394	1.30	12:10A	0.92	0.007	
8/2/35	UCW	2.335	CP	11:57P	43	1.36	3.12	2.28	1.98	85	63	12:09A	12:57A	0.1394	1.30	12:10A	0.92	0.007	
8/2/35	UCW	2.335	CP		43	1.06	3.12	2.28	1.98	85	63	12:07A	12:50A	0.1405	4.50	12:05A	0.66	5.300	





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH           , 19 35  
 SHEET 6 OF 9 SHEETS

 PROJECT LeCrosse, Wisconsin  
 RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 6 OF 9

DATE		WATERSHED		RAINFALL		TEMPERATURE (degrees F.)		RUN OFF		RAINFALL MINUS RUN-OFF (inches)		Soil Loss (tons per acre)		CONDITION OF WATERSHED				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	MAXIMUM INTENSITY		(10)	(11)	(12)	(13)	(14)	MAXIMUM RATE		(17)	(18)	(19)
							3 minutes (inches per hour)	15 minutes (inches per hour)						Cu ft sec	Time			
8/5/35	UP1	2.112	CE	6:10A	10	0.03	0.21	--	--	79	70	10:01P	12:15A	0.7327	5.12	10:19P	0.074	Unterraced Cultivated Watershed - Avg. 5 surface and subsoil very moist and compact. Corn 5' to 6' tall. At 12-13 approach section of channel repaired. This section was given a flatter grade to reduce the velocity of approach.
8/5/35	UP2	2.112	CE	9:29A	27	0.15	1.20	0.14	--	79	70					1.20		
8/5/35	UP3	2.112	CE	12:02P	31	0.14	1.08	0.44	0.30	79	70							
8/5/35	UP4	2.112	CE	9:19P	26	2.32	3.26	2.86	2.57	79	70							
8/5/35	UP5	2.112	CE	6:10A	10	0.03	0.21	--	--	79	70							
8/5/35	UP6	2.112	CE	9:29A	27	0.15	1.20	0.14	--	79	70							
8/5/35	UP7	2.112	CE	12:02P	31	0.14	1.08	0.44	0.30	79	70							
8/5/35	UP8	2.112	CE	9:19P	26	2.32	3.26	2.86	2.57	79	70							
8/5/35	UP9	2.112	CE	6:10A	105	0.12	0.50	0.28	0.18	87	67					1.25	11.065	
8/5/35	UP10	2.112	CE	9:29A	105	0.12	0.50	0.28	0.18	87	67							
8/5/35	UP11	2.112	CE	1:32P	130	0.10	1.20	0.32	0.64	81	69							
8/5/35	UP12	2.112	CE	4:11A	30	0.15	0.48	0.32	0.30	87	67							
8/5/35	UP13	2.112	CE	1:32P	130	0.10	1.20	0.32	0.64	81	69							
8/5/35	UP14	2.112	CE	4:11A	30	0.15	0.48	0.32	0.30	87	67					0.30	0.508	
8/5/35	UP15	2.112	CE	2:10A	130	0.54	0.84	0.50	0.42	71	68							
8/5/35	UP16	2.112	CE	2:10A	130	0.54	0.84	0.50	0.42	71	68							
8/5/35	UP17	2.112	CE			0.03				79	54							
8/5/35	UP18	2.112	CE			0.03				79	54							
8/5/35	UP19	2.112	CE			0.05				65	45							
8/5/35	UP20	2.112	CE			0.05				65	45							
8/5/35	UP21	2.112	CE	5:10P	40	0.24	0.30	0.36	0.20	65	49							
8/5/35	UP22	2.112	CE	5:10P	40	0.34	0.30	0.36	0.20	65	49							
8/5/35	UP23	2.112	CE	1:15P	120	0.03	VL	VL	VL	65	45							
8/5/35	UP24	2.112	CE	10:15P	25	0.15	0.30	0.30	0.20	65	45							
8/5/35	UP25	2.112	CE	1:15P	120	0.03	VL	VL	VL	65	45							
8/5/35	UP26	2.112	CE	10:15	35	0.15	0.30	0.30	0.20	65	45							
8/5/35	UP27	2.112	CE	1:00A	25	0.22	0.24	0.16	0.12	65	53							
8/5/35	UP28	2.112	CE	1:00A	25	0.22	0.24	0.16	0.12	65	53							
8/5/35	UP29	2.112	CE	10:15	4	0.12	0.84	0.32	0.18	73	50							
8/5/35	UP30	2.112	CE	10:15	4	0.12	0.84	0.32	0.18	73	50							

Unterraced Pasture watershed - Avg. 5 very moist soil condition from previous rains. Area pastured. Vegetation on upper third about 8" tall; on middle third about 2"; considerable tall, overgrown vegetation on lower third.

Unterraced Pasture watershed - Avg. 5 very moist soil condition from previous rains. Area pastured. Vegetation on upper third about 6" tall; on middle third about 2"; considerable tall, ungrazed vegetation on lower third.



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH 10, 1935  
 SHEET 7 OF 9 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project LaCrosse, Wisconsin

DATE	WATERSHED		RAINFALL					TEMPERATURE (degrees F)			RUN-OFF				RUN-OFF MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED	
	Number	Area (acres)	Obs. No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Begin (hour)	Ended (hour)	Amount (ac-ft)				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
9/18/35	UPW	2,112	CE	10:15P						84	66							
9/19/35	UPW	2,112	CE		285	0.90	2.16	1.20	0.90	77	58	1:35A	2:34A	0.0144	0.16	1:16A	0.79	Interseeded Cultivated watershed - corn was out and shocked 9-28. Ground constant.
9/20/35	UPW	2,112	CE	10:15P		0.03	0.36	--	--	77	58							
9/20/35	UPW	2,112	CE	11:15P	105	0.28	0.36	0.64	0.16	76	56							
9/20/35	UPW	2,112	CE	10:15P						94	66							
9/22/35	UPW	2,112	CE		285	0.80	2.16	1.20	0.90	77	58	1:35A	3:32A	0.1604	1.50	1:16A	0.64	
9/23/35	UPW	2,112	CE	10:10P	5	0.03	0.36	--	--	77	58							
9/23/35	UPW	2,112	CE	11:15P						77	58							
9/20/35	UPW	2,112	CE		105	0.28	0.36	0.64	0.16	70	56	12:18A	1:15A	0.1302	0.68	12:22A	0.25	
9/24/35	UPW	2,112	CE	3:48P	280	0.16	0.18	0.32	0.28	79	66							
9/24/35	UPW	2,112	CE	3:56P	282	0.16	0.18	0.32	0.28	79	66							
10/2/35	UPW	2,112	CE			0.02	Rain & Snow			58	37							
10/2/35	UPW	2,112	CE			0.02				58	37							
10/2/35	UPW	2,112	CE	7:00P	180	0.30	0.24	0.12	VL	54	42							
10/2/35	UPW	2,112	CE	7:00P	180	0.30	0.24	0.12	VL	54	42							
10/10/35	UPW	2,112	CE			0.01				43	31							
10/10/35	UPW	2,112	CE			0.01				43	31							
10/17/35	UPW	2,112	CE	7:14P						78	52							
10/17/35	UPW	2,112	CE		606	1.00	2.64	1.20	0.76	54	51							
10/17/35	UPW	2,112	CE	7:50P						78	52	7:57P	10:30P	0.0656	0.38	8:03P	0.93	Interseeded pasture watershed - stopped pasturing area on Oct. 6. 203 now dry or grazing from July 17 till Oct. 6.
10/17/35	UPW	2,112	CE		670	1.00	2.64	1.20	0.76	44	51	2:18A	3:30A	0.0656	0.455	2:23A		
10/17/35	UPW	2,112	CE							54	51	4:16A	6:10A		0.13	5:07A		
10/20/35	UPW	2,112	CE	3:12A	100	0.14	0.24	0.16	VL	44	42							
10/20/35	UPW	2,112	CE	3:12A	100	0.14	0.24	0.16	VL	44	42							
10/20/35	UPW	2,112	CE	6:00A	420	0.27	0.12	VL	VL	40	33							
10/20/35	UPW	2,112	CE	6:00A	420	0.27	0.12	VL	VL	40	33							





## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project LaCrosse, Wisconsin

[illegible]





## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT -- LaCrosse, Wisconsin  
U.S. GOVERNMENT PRINTING OFFICE 17-308

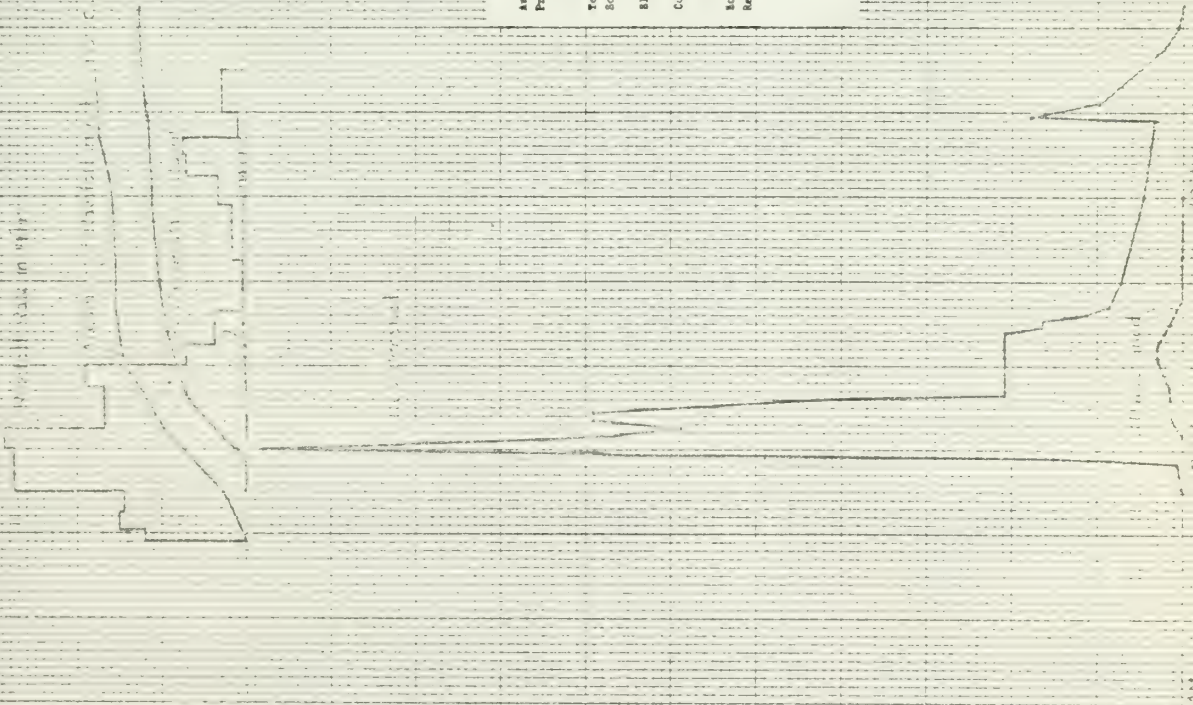
[illegible]



21110, 1955

3 AM

3 AM



U.S. WATERFLOED  
2,355  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

U.S. WATERFLOED  
2,412  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

U.S. WATERFLOED  
2,412  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

U.S. WATERFLOED  
2,412  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

U.S. WATERFLOED  
2,412  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

U.S. WATERFLOED  
2,412  
Preceding Rain (in.)  
date before  
duration (hours)  
Temperature (max. & min.)  
Soil (major type)  
Percent of area  
Blade, across (percent)  
Cover, type  
height (ft.)  
date last cultivated  
Soil loss (tons per acre)  
Remarks  
Corn drilled and  
cultivated on contour  
surface. Subsoil moist

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
H. H. HENRI, Chief  
DIVISION OF RESEARCH, W. C. LOWDERMILK, Chief  
OFFICE OF MISSISSIPPI VALLEY SOIL  
CONSERVATION, W. H. W. STATION  
LA CROSSE, WISCONSIN

STORM NO. July 5, 1955  
Plot by J.C.H. date 1-20-55 checked by J.C.H. date 1-20-55  
Computation by J.C.H. date 1-17-55 checked by J.C.H. date 1-17-55  
Sheet 1 of 1 Sheet











AUGUST 16, 1955

2 AM

3 AM

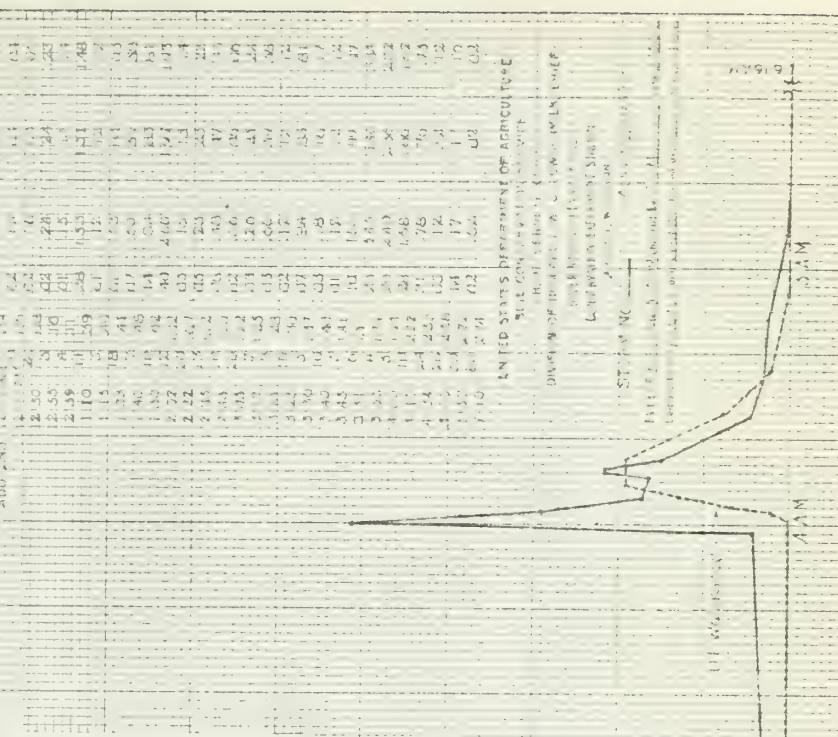
4 AM

5 AM

6 AM

7 AM

Area (acres) 2.375  
Preceding Rain (in.) 2.112  
date began 30  
duration (hours) 7-31-55  
2-14  
2-14  
Year (year, day & min.) 8-55  
50% Clinton Silt Loam  
50% Dubuque Silt Loam  
25  
21.9  
Corn  
4  
6-28-55  
27.1/4  
Soil moist and sub-  
soil moist and compact, subsoil moist.  
Surface soil and  
and dense.  
Grass quite tall  
32.5  
24  
Dubuque Silt Loam  
8-55  
2-14  
7-31-55  
30  
2.112  
T.P. WATKINS



UNITED STATES DEPARTMENT OF AGRICULTURE

Soil Conservation Service

Division of Conservation Research

Washington, D.C.

Field Station

August 16, 1955

Field Station

Field Station

Field Station

Field Station



Sheet 1 of 1 Sheet

Area (acres)	0.5. 2.455
Preceding Rain (in.)	2.45
date begun	2-21
duration (hours)	8-1 & 2-35
Temperature (max. & min.)	7-35
Soil (soil type)	62-65
percent of area	50% black silt loam
slope, average (percent)	50% black silt loam
maximum	15.0
cover, type	24-9
bright (ft.)	Corn
date last cultivated	35-43
soil: 1/2 (from fur row)	7-11-35
feather	9-30
	Plowed on contour.
	Soil very moist from preceding rain.

STORM NO. \_\_\_\_\_ Aug. 3, 1955

Plot by \_\_\_\_\_  
Conspicuous to \_\_\_\_\_

Sheet 1 of 1 Sheet











SEP 16 - 9 1933

12:00 PM

2:00 AM

4:00 AM

6:00 AM

8:00 AM

10:00 AM

12:00 PM

2:00 PM

4:00 PM

6:00 PM

8:00 PM

10:00 PM

Rainfall Rate in in/hr

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35



Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Runoff Volume in cu ft

0.00

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

Diagram of the Hydrograph of the Runoff

of the Runoff of the Runoff

of the Runoff of the Runoff

of the Runoff of the Runoff

of the Runoff of the Runoff

of the Runoff of the Runoff

of the Runoff of the Runoff













UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

MONTH \_\_\_\_\_, 19-36

SHEET 1 OF 8 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT. LeCrosse, Wisconsin

DATE	WATERSHED		Qamp No.	Begin (hour)	Duration (minutes)	RAINFALL			TEMPERATURE (Section 17)			RUN-OFF			RAINFALL MEASURE Run-off (inches)	SET LOG (mm per hour)	COMMENTS ON WATERSHED	
	Number	Area (acres)				Amount (inches)	MAXIMUM INTENSITY		Minimum	Amount (inches)	Fetched (hour)	Peak (hour)	Amount (inches)	Cu ft. sec.				Time
							5 minutes (inches per hour)	15 minutes (inches per hour)										
1/1/36	UPW	2,112	UCW															
1/1/36	UCW	2,335	UCW															
1/2/36	UPW	2,112	UCW															
1/2/36	UCW	2,335	UCW															
1/3/36	UPW	2,112	UCW															
1/3/36	UCW	2,335	UCW															
1/4/36	UPW	2,112	UCW															
1/4/36	UCW	2,335	UCW															
1/5/36	UPW	2,112	UCW															
1/5/36	UCW	2,335	UCW															
1/6/36	UPW	2,112	UCW															
1/6/36	UCW	2,335	UCW															
1/7/36	UPW	2,112	UCW															
1/7/36	UCW	2,335	UCW															
1/8/36	UPW	2,112	UCW															
1/8/36	UCW	2,335	UCW															
1/9/36	UPW	2,112	UCW															
1/9/36	UCW	2,335	UCW															
1/10/36	UPW	2,112	UCW															
1/10/36	UCW	2,335	UCW															
1/11/36	UPW	2,112	UCW															
1/11/36	UCW	2,335	UCW															
1/12/36	UPW	2,112	UCW															
1/12/36	UCW	2,335	UCW															
1/13/36	UPW	2,112	UCW															
1/13/36	UCW	2,335	UCW															
1/14/36	UPW	2,112	UCW															
1/14/36	UCW	2,335	UCW															
1/15/36	UPW	2,112	UCW															
1/15/36	UCW	2,335	UCW															
1/16/36	UPW	2,112	UCW															
1/16/36	UCW	2,335	UCW															
1/17/36	UPW	2,112	UCW															
1/17/36	UCW	2,335	UCW															
1/18/36	UPW	2,112	UCW															
1/18/36	UCW	2,335	UCW															
1/19/36	UPW	2,112	UCW															
1/19/36	UCW	2,335	UCW															
1/20/36	UPW	2,112	UCW															
1/20/36	UCW	2,335	UCW															
1/21/36	UPW	2,112	UCW															
1/21/36	UCW	2,335	UCW															
1/22/36	UPW	2,112	UCW															
1/22/36	UCW	2,335	UCW															
1/23/36	UPW	2,112	UCW															
1/23/36	UCW	2,335	UCW															
1/24/36	UPW	2,112	UCW															
1/24/36	UCW	2,335	UCW															
1/25/36	UPW	2,112	UCW															
1/25/36	UCW	2,335	UCW															
1/26/36	UPW	2,112	UCW															
1/26/36	UCW	2,335	UCW															
1/27/36	UPW	2,112	UCW															
1/27/36	UCW	2,335	UCW															
1/28/36	UPW	2,112	UCW															
1/28/36	UCW	2,335	UCW															
1/29/36	UPW	2,112	UCW															
1/29/36	UCW	2,335	UCW															
1/30/36	UPW	2,112	UCW															
1/30/36	UCW	2,335	UCW															
1/31/36	UPW	2,112	UCW															
1/31/36	UCW	2,335	UCW															

Unterraced Pasture Watershed - Area was grazed intermittently in 1935 with the result that at the end of the year the vegetation was taller and denser than would be representative of normal pasture conditions. 1936 started with about 4" of snow on frozen ground. Soil frozen 12" to 15" deep.

Unterraced Cultivated Watershed - This area was plowed 11/5-16/35 so had no cover crop at beginning of 1936. About 4" of snow on ground at beginning of year. Snow increased as amounts of precipitation indicate. No thawing occurred during this period. Soil frozen 26" to 38" deep.



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH 19 36  
 SHEET 2 OF 8 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 Project: LaCrosse, Wisconsin

Date	WATERSHED		RAINFALL					TEMPERATURE (Fahrenheit)		RUN-OFF					RELATIVE HUMIDITY (percent)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED		
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (cubic feet)				MAXIMUM RATE	
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)									Cu. ft. sec.	Time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
2/12/36	UPW	2,112	UCW	7:15P	0.03	0.03				6	-12							Untersced Cultivated Watershed - This area was plowed in the fall of 1935 with a two-way plow, throwing all earth uphill. Three center lines were staked out and the plowing conformed to them with the result that there was considerable surface storage capacity. Runoff did not start from this plot until March 3 and then it occurred intermittently at a very low rate of flow until March 22. The surface soil began to thaw out on March 8 and was unfrozen to a depth of 4" on March 10. Visible erosion took place with small gullies 2" wide and down to the frost layer were quite frequent. On March 22 the surface soil was thawed out and saturated to a depth of about 6".	
2/12/36	UCW	2,335	UCW		0.03					6	-12								
2/13/36	UPW	2,112	UCW		0.02					17	-7								
2/13/36	UCW	2,335	UCW		0.02					17	-7								
2/14/36	UPW	2,112	UCW		0.04					6	-17								
2/14/36	UCW	2,335	UCW		0.04					6	-17								
2/15/36	UPW	2,112	UCW		0.10					5	-20								
2/15/36	UCW	2,335	UCW		0.10					5	-20								
2/16/36	UPW	2,112	UCW		0.05					13	-14								
2/16/36	UCW	2,335	UCW		0.05					13	-14								
2/17/36	UPW	2,112	UCW		0.11					17	8								
2/17/36	UCW	2,335	UCW		0.11					17	8								
2/18/36	UPW	2,112	UCW		0.05					27	9								
2/18/36	UCW	2,335	UCW		0.05					27	9								
2/19/36	UPW	2,112	UCW		0.10					36	20								
2/19/36	UCW	2,335	UCW		0.10					36	20								
2/20/36	UPW	2,112	UCW		0.01					25	0								
2/20/36	UCW	2,335	UCW		0.01					25	0								
2/21/36	UPW	2,112	CE	7:15P				Rain twirling to snow		52	31								
2/21/36	UCW	2,335	CE		0.06			Melting in funnel		32	30								
2/22/36	UPW	2,112	CE	7:30A				"		32	30								
2/22/36	UCW	2,335	CE	7:15P				"		52	31								
2/23/36	UPW	2,112	CE		0.06			"		32	30								
2/23/36	UCW	2,335	CE	7:30A				"		32	30								
2/24/36	UPW	2,112	CE		0.27					34	22								
2/24/36	UCW	2,335	CE		0.27					34	22								
2/25/36	UPW	2,112	CE	6:00A	16	0.04		0.15		48	32								
2/25/36	UCW	2,335	CE	6:00A	16	0.04		0.15		48	32								
2/26/36	UPW	2,112	CE	12:29A	120	0.28		0.60		67	40								
2/26/36	UCW	2,335	CE	4:12A	112	0.28		0.60		67	40								
2/27/36	UPW	2,112	CE	7:10P	14	0.10		0.72		67	40								
2/27/36	UCW	2,335	CE	12:29A	120	0.28		0.60		67	40								
2/28/36	UPW	2,112	CE	4:12A	112	0.38		0.60		67	40								
2/28/36	UCW	2,335	CE	7:10P	14	0.12		0.72		67	40								
2/29/36	UPW	2,112	CE																
2/29/36	UCW	2,335	CE																
2/30/36	UPW	2,112	CE																
2/30/36	UCW	2,335	CE																
2/31/36	UPW	2,112	CE																
2/31/36	UCW	2,335	CE																





## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

MONTH \_\_\_\_\_, 1936

SHEET 3 OF 8 SHEETS

PROJECT.....LaCrosse, Wisconsin

M. B. GOVERNMENT PRINTING OFFICE 5 1 169

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# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT **LaCrosse, Wisconsin**  
U. S. GOVERNMENT PRINTING OFFICE 8-12749

SHEET 4 OF 8 SHEETS

WATERED			RAINFALL										TEMPERATURE (degrees F.)		RUN-OFF			RAINFALL MEAS (inches)	SOIL LOSS (tons per acre)	Comments on Watered
DATE	Number	Area (acres)	Oats No.	Rain (in)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE		Rainfall Meas (inches)	SOIL LOSS (tons per acre)				
							8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)				Cu ft. sec.	Time						
5/12/36	UPW	2.412	CE	11:15P	10	0.04	VL	VL	VL	10:21A	10:50A	0.09	1.57	10:30A	0.08	0.640	Untreated Cultivated Water-shed - 5/12 barley coming through soil. Soil moist compact. 5/22 Barley 3" tall. thin stand - timothy and clover 3" tall. thin stand. soil dry, compact; sub soil moist, compact. 5/31 barley 6" tall, grass 3" food stand. Soil dry compact. 6/6 barley 7" tall, grass 4" to 1" food stand. Soil moist compact. 6/17 barley 12" grass 2" food stand soil moist compact. 7/10 Barley 18" to 30" good stand grass 1" to 3" sparse. Soil dry, hard. Subsoil moist, compact.			
5/12/36	UCW	2.325	CE	11:15P	10	0.04	VL	VL	VL	10:21A	10:50A	0.09	1.57	10:30A	0.08	0.640	Untreated pasture watershed. 5/22 grass 6" to 10" tall dense cover. Soil moist compact 5/31 grass 6" to 10" tall. dense; soil moist, compact. 6/17 grass 10" tall soil moist compact. 6/18 vegetation cut for hay except in area of relayed soil, where old road was removed (0.32A). 6/29 Pasture started. Rowed area fenced cut. Also row gully back sodded and fenced out. 7/10 grass 3" tall, dense. Soil moist compact.			
5/17/36	UPW	2.412	CE	2:00A	55	0.18	0.60	0.32	0.30	3:18P	3:02P	0.14	0.1555	2:50P	1.36	0.004				
5/17/36	UCW	2.325	CE	2:00A	55	0.18	0.60	0.32	0.30	3:18P	3:02P	0.14	0.1555	2:50P	1.36	0.004				
5/17/36	UPW	2.412	CE	1:41P	264	1.50	3.60	2.55	1.34	3:52P	4:21P	1.01	1.37	3:40P	0.46	33.000				
5/17/36	UCW	2.325	CE	1:41P	264	1.50	3.60	2.55	1.34	3:52P	4:21P	1.01	1.37	3:40P	0.46	33.000				
5/17/36	UPW	2.412	CE	10:20A	10	0.17	1.02	--	--	10:21A	10:50A	0.09	1.57	10:30A	0.08	0.640				
5/17/36	UCW	2.325	CE	10:20A	10	0.17	1.02	--	--	10:21A	10:50A	0.09	1.57	10:30A	0.08	0.640				
5/17/36	UPW	2.412	CE	7:45P	52	0.20	1.24	0.72	0.37	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UCW	2.325	CE	7:45P	52	0.20	1.24	0.72	0.37	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UPW	2.412	CE	10:31P	33	0.12	0.60	0.32	0.22	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UCW	2.325	CE	10:31P	33	0.12	0.60	0.32	0.22	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UPW	2.412	CE	5:20A	357	0.06	0.83	0.72	0.60	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UCW	2.325	CE	5:20A	357	0.06	0.83	0.72	0.60	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UPW	2.412	CE	1:15A	220	0.21	0.36	0.20	VL	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UCW	2.325	CE	1:15A	220	0.21	0.36	0.20	VL	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UPW	2.412	CE	1:15A	220	0.30	0.36	0.30	0.20	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UCW	2.325	CE	1:15A	220	0.30	0.36	0.30	0.20	9:18A	10:15A	0.08	0.935	10:21A	0.95	0.001				
5/17/36	UPW	2.412	CE	6:11P	24	0.25	1.68	0.80	--	6:42P	6:50P	0.007				None				
5/17/36	UCW	2.325	CE	6:11P	24	0.25	1.68	0.80	--	6:42P	6:50P	0.007				None				
5/17/36	UPW	2.412	CE	1:40SA	5	0.05	0.60	--	--											
5/17/36	UCW	2.325	CE	1:40SA	5	0.05	0.60	--	--											
5/17/36	UPW	2.412	CE	1:40SA	5	0.05	0.60	--	--											
5/17/36	UCW	2.325	CE	1:40SA	5	0.05	0.60	--	--											
5/17/36	UPW	2.412	CE	4:45A	285	0.06	0.34	VL	VL	79	79	0.008	0.38	12:52P	0.17	0.076				
5/17/36	UCW	2.325	CE	4:45A	285	0.06	0.34	VL	VL	79	79	0.008	0.38	12:52P	0.17	0.076				
5/17/36	UPW	2.412	CE	6:50A	65	0.14	0.36	0.24	0.18	79	79									
5/17/36	UCW	2.325	CE	6:50A	65	0.14	0.36	0.24	0.18	79	79									
5/17/36	UPW	2.412	CE	7:55A	85	0.07	0.12	VL	VL	98	98									
5/17/36	UCW	2.325	CE	7:55A	85	0.07	0.12	VL	VL	98	98									



MONTH \_\_\_\_\_, 1936  
SHEET 5 OF 8 SHEETS

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project LaCrosse, Wisconsin

DATE	WEATHERED		HEATHALL										TEMPERATURE (degrees F.)		RUN-OFF			RAINFALL MEASUREMENT (inches)	SILT LOSS (tons per acre)	REMARKS	
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Basin (hour)	Fed (hour)	Amount (inches)	MAXIMUM RATE								
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)				Cu. ft. sec.	Time							
7/17/36	UPW	2.412	CE	9:30P	20	0.10	0.60	0.32	--												
7/17/36	UCW	2.335	CE	9:30P	20	0.10	0.60	0.32	--												
7/17/36	UPW	2.412	CE	1:15A	35	0.06	0.24	0.18	VL												
7/17/36	UCW	2.412	CE	1:15A	35	0.02	--	--	VL												
7/17/36	UPW	2.412	CE	1:15A	35	0.02	0.24	0.18	VL												
7/17/36	UCW	2.335	CE	1:15A	35	0.02	--	--	VL												
7/17/36	UPW	2.412	CE	9:30P	50	0.22	1.08	0.48	0.40												
7/17/36	UCW	2.412	CE	9:30P	50	0.14	0.64	0.48	0.28												
7/17/36	UPW	2.412	CE	9:30P	50	0.22	1.08	0.48	0.40												
7/17/36	UCW	2.335	CE	9:30P	50	0.14	0.64	0.48	0.28												
7/17/36	UPW	2.412	CE	3:35A	15	0.04	0.18	0.16	--												
7/17/36	UCW	2.335	CE	3:35A	15	0.04	0.18	0.16	--												
8/13/36	UPW	2.412	CE	9:00A	150	0.12	0.24	0.12	VL												
8/13/36	UCW	2.335	CE	9:00A	150	0.12	0.24	0.12	VL												
8/13/36	UPW	2.412	CE	10:30A	20	0.05	0.16	0.12	--												
8/13/36	UCW	2.335	CE	10:30A	20	0.05	0.16	0.12	--												
8/17/36	UPW	2.412	CE	3:30P	85	0.05	0.24	VL	VL												
8/17/36	UCW	2.335	CE	3:30P	85	0.05	0.24	VL	VL												
8/17/36	UPW	2.412	CE	4:10A	125	0.03	0.24	VL	VL												
8/17/36	UCW	2.335	CE	4:10A	125	0.03	0.24	VL	VL												
8/17/36	UPW	2.412	CE	1:20P	40	0.07	0.24	0.16	0.12												
8/17/36	UCW	2.412	CE	1:20P	40	0.03	0.18	0.32	0.36												
8/17/36	UPW	2.412	CE	3:50P	90	0.19	0.48	0.52	0.36												
8/17/36	UCW	2.335	CE	3:50P	90	0.19	0.48	0.52	0.36												
8/17/36	UPW	2.412	CE	11:50P	100	0.24	0.96	0.52	0.36												
8/17/36	UCW	2.335	CE	11:50P	100	0.24	0.96	0.52	0.36												
8/21/36	UPW	2.412	CE	1:30A	55	0.31	0.36	0.16	0.12												
8/21/36	UCW	2.335	CE	1:30A	55	0.19	0.24	VL	VL												
8/22/36	UPW	2.412	CE	1:30A	255	0.02	VL	VL	VL												
8/22/36	UCW	2.335	CE	1:30A	255	0.02	VL	VL	VL												
8/22/36	UPW	2.412	CE	9:30P	55	0.05	VL	VL	VL												
8/22/36	UCW	2.335	CE	9:30P	55	0.05	VL	VL	VL												





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH 1936  
SHEET 6 OF 8 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

DATE	WATERSHED		OBS. NO.	Begin (hour)	Duration (minutes)	Amount (inches)	RAINFALL			MAXIMUM INTENSITY			TEMPERATURE (F)		RUN-OFF			RAINFALL MEASUREMENT (inches)	Rct Low (tons per acre)	CONDITION OF WATERBED	
	Number	Area (acres)					5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Minimum	Maximum	Begin (hour)	End (hour)	Amount (inches)	Cu ft. sec	Time					
8/27/30	UPW	2.112	1	CE	3:25A	179	0.50	0.24	0.24	0.20	0.20	69	58	10:25P	12:15A	0.25	1.72	11:23P	1.37	0.555	Unterraced Cultivated Watershed - 9/27 grain stubble, new seedling sparse and very weak. Soil moist loose; subsoil dry, hard. 9/5 new seedling sparse and weak. Soil moist, compact. 9/15 Crop same as above. Soil wet, compact. 9/20 Soil moist, compact. Subsoil moist, compact.
8/27/30	UPW	2.112	1	CE	3:10P	72	0.30	1.20	0.50	0.20	0.20	69	58								
8/27/30	UPW	2.112	1	CE	3:10P	220	1.22	2.83	2.00	1.50	1.50	71	55								
8/27/30	UPW	2.112	1	CE	3:10P	170	0.50	0.24	0.24	0.20	0.20	69	58								
8/27/30	UPW	2.112	1	CE	3:10P	72	0.30	1.20	0.50	0.20	0.20	69	58								
8/27/30	UPW	2.112	1	CE	3:10P	220	1.22	2.83	2.00	1.50	1.50	71	55								
8/27/30	UPW	2.112	1	CE	3:10P	60	0.18	0.72	0.36	0.20	0.20	74	63								
8/27/30	UPW	2.112	1	CE	3:10P	60	0.18	0.72	0.36	0.20	0.20	74	63								
8/27/30	UPW	2.112	1	CE	7:25P	170	1.04	1.92	1.50	1.02	1.02	87	64								
8/27/30	UPW	2.112	1	CE	7:5P	170	1.04	1.92	1.50	1.02	1.02	87	64								
8/27/30	UPW	2.112	1	CE	12:25A	100	0.25	1.44	0.48	0.24	0.24	78	60								
8/27/30	UPW	2.112	1	CE	12:25A	100	0.25	1.44	0.48	0.24	0.24	78	60								
8/27/30	UPW	2.112	1	CE	12:55A	70	0.05	0.12	VL	VL	VL	70	63								
8/27/30	UPW	2.112	1	CE	5:05A	125	0.27	0.36	0.24	0.20	0.20	70	63								
8/27/30	UPW	2.112	1	CE	12:05P	75	0.04	VL	VL	VL	VL	70	63								
8/27/30	UPW	2.112	1	CE	12:55A	70	0.05	0.12	VL	VL	VL	70	63								
8/27/30	UPW	2.112	1	CE	5:05A	125	0.27	0.36	0.24	0.20	0.20	70	63								
8/27/30	UPW	2.112	1	CE	12:05P	75	0.04	VL	VL	VL	VL	70	63								
8/27/30	UPW	2.112	1	CE	4:05A	795	2.20	1.76	1.68	1.26	1.26	67	64								
8/27/30	UPW	2.112	1	CE	4:05A	795	2.20	1.76	1.68	1.26	1.26	67	64								
8/27/30	UPW	2.112	1	CE	12:38A	75	0.71	1.80	0.92	0.85	0.85	78	55								
8/27/30	UPW	2.112	1	CE	12:38A	75	0.71	1.80	0.92	0.85	0.85	78	55								
8/27/30	UPW	2.112	1	CE	9:20A	15	0.01	0.36	0.16	VL	VL	57	51								
8/27/30	UPW	2.112	1	CE	11:15A	255	0.06	0.12	VL	VL	VL	57	51								
8/27/30	UPW	2.112	1	CE	9:30A	15	0.01	0.36	0.16	VL	VL	57	51								
8/27/30	UPW	2.112	1	CE	12:15A	255	0.06	0.12	VL	VL	VL	57	51								

Unterraced Pasture Watershed - 9/5 grass 2" to 1" tall, good stand. Soil moist, compact. 9/15 grass 1" to 2" good stand. Soil moist, compact. 9/20 crop same as above, soil moist, compact.





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL DIVISION OF RESEARCH SERVICE

Form No. C. 8-315

MONTH 10, 1936  
SHEET 7 OF 8 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

PROJECT - LaCrosse, Wisconsin

DATE

WATERSHED

RAINFALL

TEMPERATURE (Fahrenheit)

Run-off

RAINFALL MINUS Run-off (inches)

Silt Loss (tons per acre)

CONDITIONS OF WATERSHED

Obs. No.

Begin (hour)

Duration (minutes)

Amount (inches)

6 minutes (inches per hour)

16 minutes (inches per hour)

30 minutes (inches per hour)

Maximum

Minimum

Items (unit)

Fetched (hour)

Amount (inches)

Mathematic Rate

Cu. ft. per sec.

Time

10/1/36

UPW

2.112

CE

7:45P

157

1.25

2.90

2.16

1.70

63

33

9:50P 11:05P

0.31

2.82

10:13P

0.0685

Unterraced Cultivated Watershed 10/3 grain stubble, new seedling sparse and very weak. Soil moist, compact. Subsoil moist compact. 10/20 conditions same as of 10/3. 10/31 soil moist compact. Subsoil moist compact. 11/7 soil frozen 1" crust, moist soil beneath. 12/3 soil frozen to 12", 12/15 (thaw) soil frozen to 8". 12/26 soil unfrozen 4" to 10" then a 2" frozen layer.

10/2/36

UPW

2.112

CE

11:45P

71

0.05

0.12

VL

VL

63

33

9:11P 11:00P

0.60

5.55

10:02P

0.250

10/3/36

UPW

2.335

CE

7:45P

157

1.25

2.90

2.16

1.70

63

33

10/5/36

UPW

2.335

CE

11:45P

71

0.05

0.12

VL

VL

63

33

10/7/36

UPW

2.112

CE

12:45A

30

0.04

0.12

VL

VL

71

56

10/8/36

UPW

2.335

CE

12:45A

30

0.04

0.12

VL

VL

71

56

10/9/36

UPW

2.335

CE

0.03

50

48

10/10/36

UPW

2.335

CE

0.03

50

48

10/11/36

UPW

2.112

CE

0.02

47

36

10/12/36

UPW

2.112

CE

0.02

47

36

10/13/36

UPW

2.112

CE

5:02P

10

0.04

0.24

--

--

52

45

10/14/36

UPW

2.112

CE

5:17P

265

0.10

1.08

0.14

0.26

52

45

10/15/36

UPW

2.112

CE

5:42P

10

0.01

0.24

--

--

52

45

10/16/36

UPW

2.335

CE

6:17P

265

0.19

1.08

0.14

0.26

52

45

10/17/36

UPW

2.112

CE

1:30A

670

1.70

0.18

0.32

0.30

51

32

10/18/36

UPW

2.112

CE

1:45P

105

0.44

0.36

0.28

0.34

46

39

10/19/36

UPW

2.112

CE

1:45P

255

0.74

0.24

0.16

0.12

49

39

10/20/36

UPW

2.112

CE

1:40A

670

1.80

0.18

0.32

0.30

51

32

10/21/36

UPW

2.112

CE

1:13P

105

0.34

0.36

0.28

0.24

46

39

10/22/36

UPW

2.112

CE

1:45P

255

0.44

0.24

0.16

0.12

49

39

11/7/36

UPW

2.112

CE

0.04

30

25

11/7/36

UPW

2.112

CE

0.04

30

25

12/1/36

UPW

2.112

CE

0.04

25

9

12/1/36

UPW

2.112

CE

0.04

25

9

12/3/36

UPW

2.112

CE

0.03

33

24

12/3/36

UPW

2.112

CE

0.03

33

24

12/5/36

UPW

2.112

CE

0.13

26

4

12/5/36

UPW

2.112

CE

0.13

26

4

12/11/36

UPW

2.112

CE

Thaw

43

21

12/11/36

UPW

2.112

CE

Thaw

43

26

12/15/36

UPW

2.112

CE

4:00A 7:80

0.21

Clock

Stopped

54

49

12/15/36

UPW

2.112

CE

4:00A 7:40

0.21

54

49



PROJECT - LaCrosse, Wisconsin

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 8 OF 8 SHEETS

[illegible]











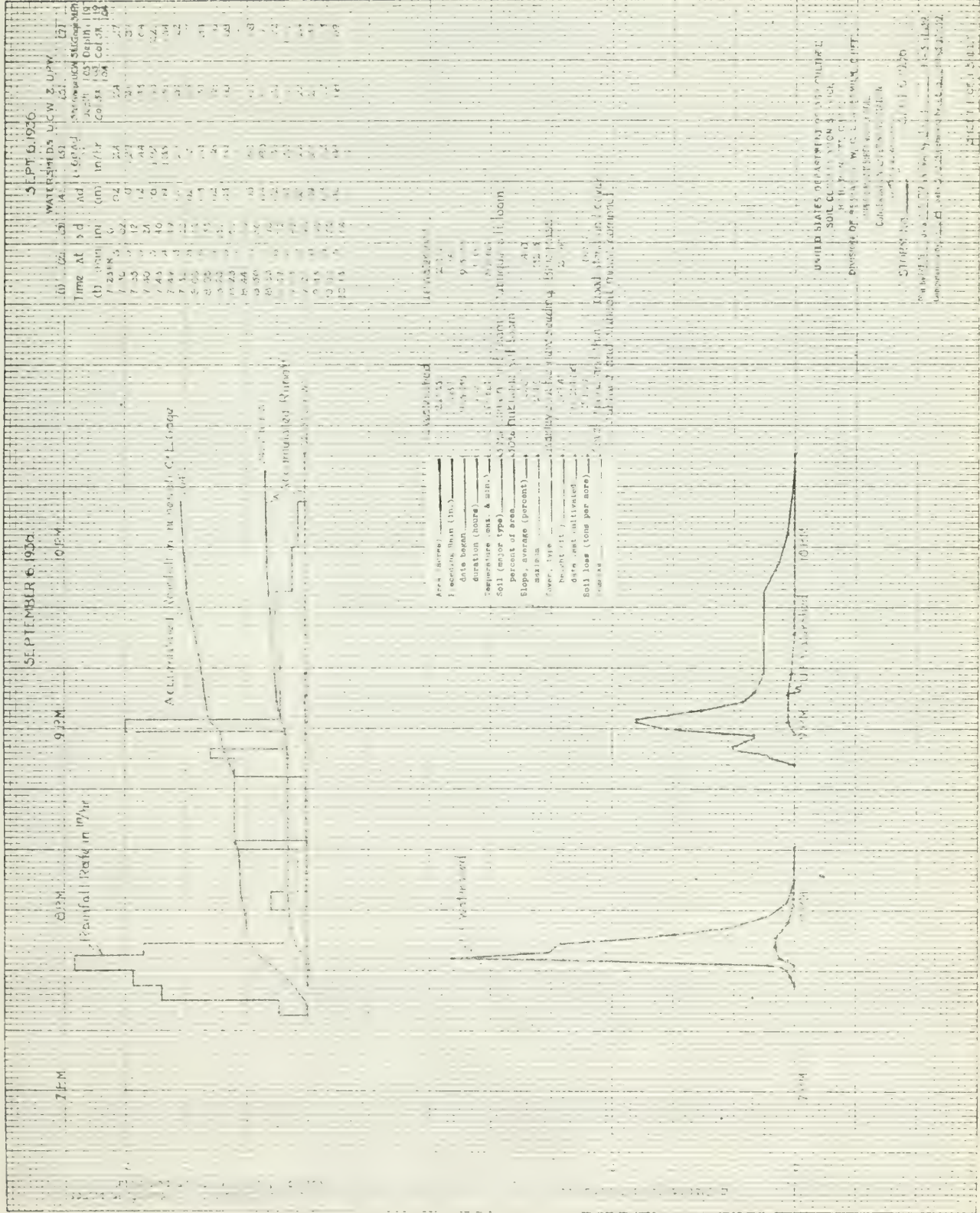












UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF SOIL CONSERVATION  
 OFFICE OF SOIL CONSERVATION  
 COLUMBIA, MISSOURI

STATION NO. 100  
 DATE OF TEST: SEPT. 6, 1936  
 TIME AT 5 D. AND 10 PM



SEPTEMBER 15, 1970

1 AM

2 AM

3 AM

4 AM

5 AM

6 AM

Long Range Radar Station

Long Range Radar Station

Long Range Radar Station

Long Range Radar Station

Long Range Radar Station

Long Range Radar Station

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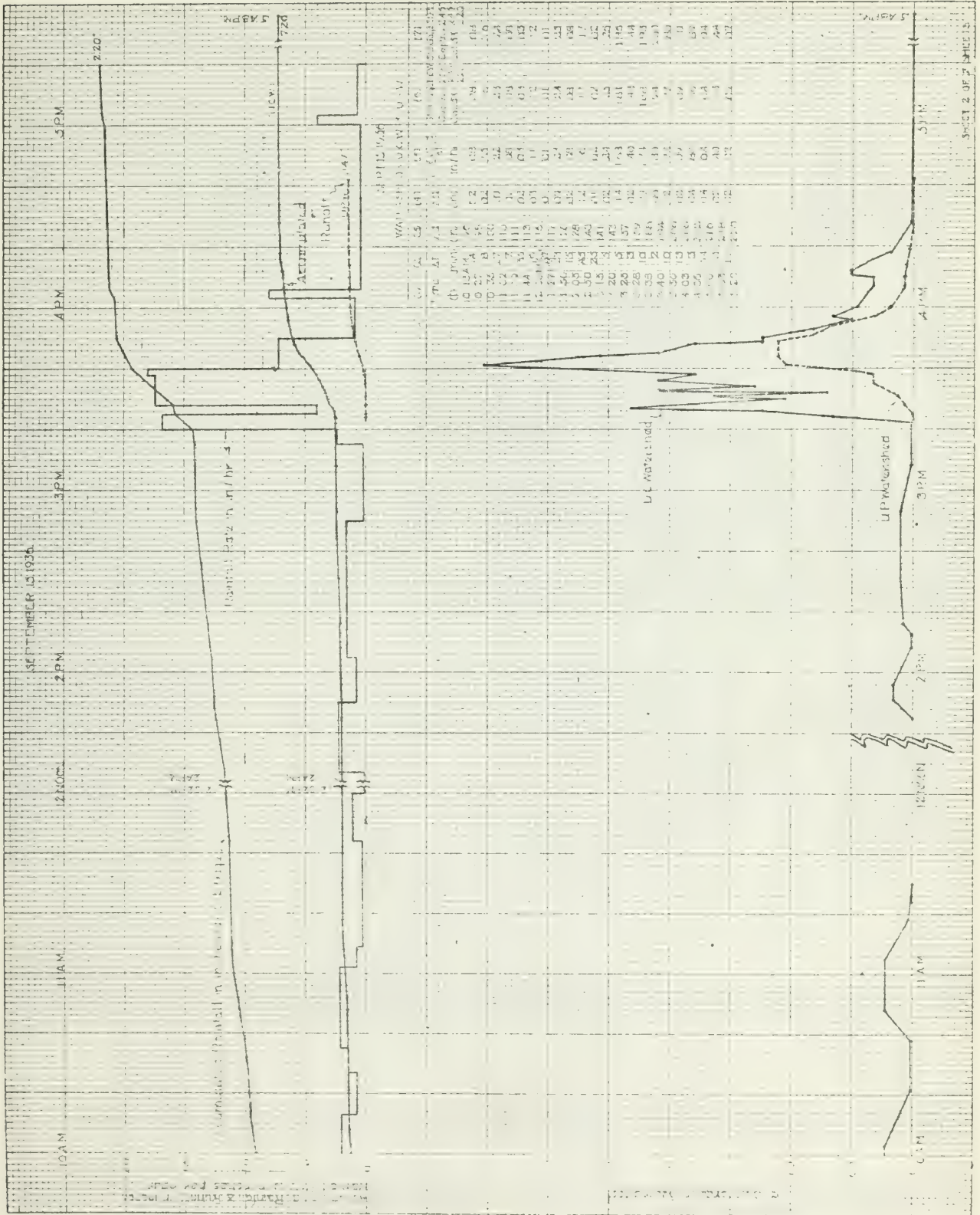
Long Range Radar Station

Long Range Radar Station

Long Range Radar Station









WATERFORD, CT 06457

[illegible]

U.S. DEPARTMENT OF AGRICULTURE  
BUREAU OF EXTENSION SERVICE

[illegible][illegible]

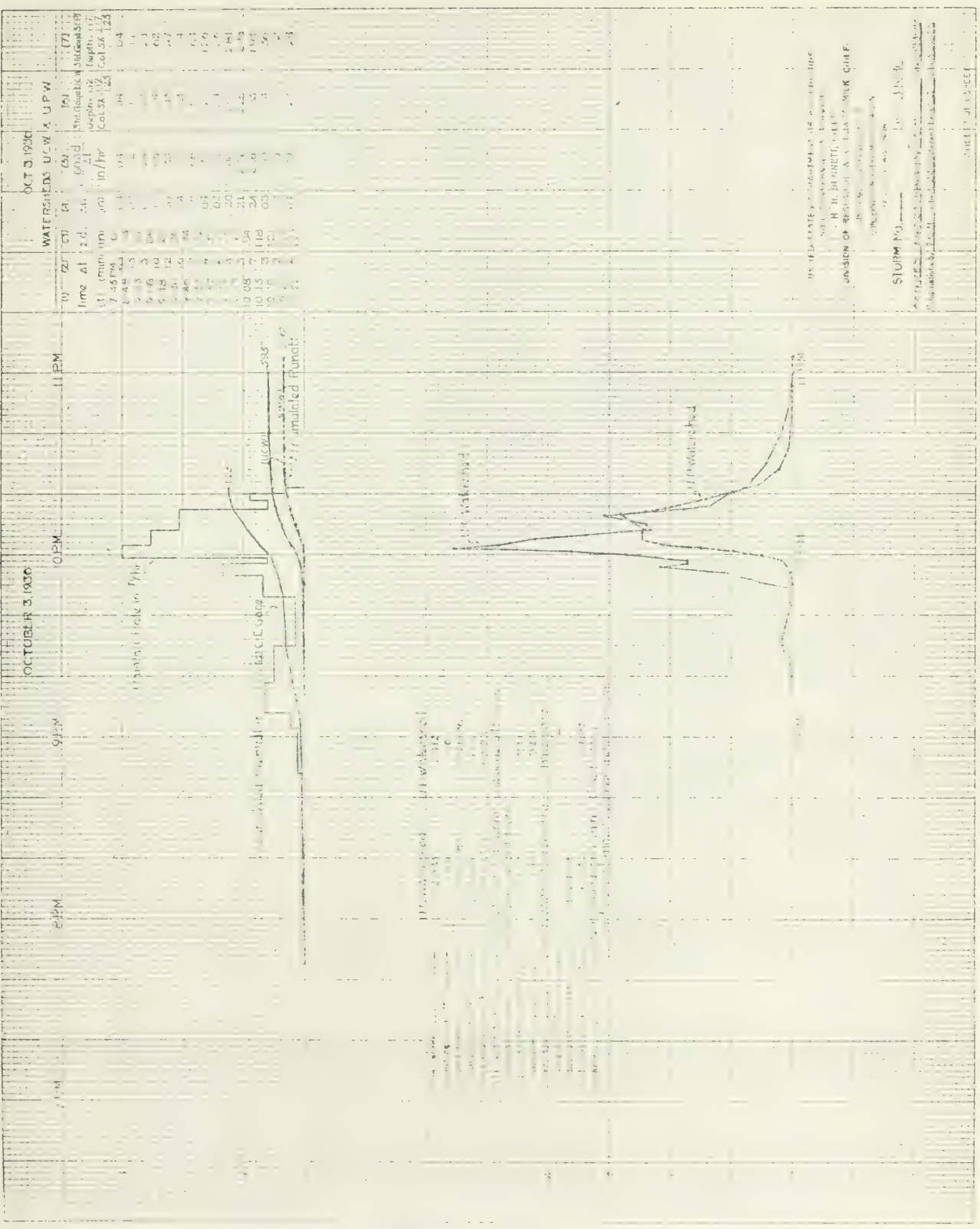
1. The first group of people who are interested in the study of the history of the world are the historians. They are the people who study the past and write about it. They are the people who tell us what happened and why it happened. They are the people who help us to understand the world and ourselves.

100

$$-\int_{\mathbb{R}^n} \frac{1}{|x|^{n-2}} \frac{1}{|y|^{n-2}} \frac{1}{|z|^{n-2}} \frac{1}{|w|^{n-2}} \frac{1}{|x-y|^{n-2}} \frac{1}{|x-z|^{n-2}} \frac{1}{|x-w|^{n-2}} \frac{1}{|y-z|^{n-2}} \frac{1}{|y-w|^{n-2}} \frac{1}{|z-w|^{n-2}} dx dy dz dw$$
[illegible]







OCT 3 1936

WATERSHEDS		UCW		UPW	
Time	At	At	At	At	At
7:00 AM	10	0	0	0	0
7:15 AM	15	0	0	0	0
7:30 AM	20	0	0	0	0
7:45 AM	25	0	0	0	0
8:00 AM	30	0	0	0	0
8:15 AM	35	0	0	0	0
8:30 AM	40	0	0	0	0
8:45 AM	45	0	0	0	0
9:00 AM	40	0	0	0	0
9:15 AM	35	0	0	0	0
9:30 AM	30	0	0	0	0
9:45 AM	25	0	0	0	0
10:00 AM	20	0	0	0	0
10:15 AM	15	0	0	0	0
10:30 AM	10	0	0	0	0
10:45 AM	5	0	0	0	0
11:00 AM	0	0	0	0	0

STATE OF CALIFORNIA  
 DIVISION OF REVENUE  
 H. H. BENNETT, CHIEF  
 STATION No. 100  
 DATE 10/3/36





1937 4









SHEET 2 OF 11 SHEETS

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Date	WATERFALL			RAINFALL						7 ESTIMATIONS (inches per hour)				BUDGET				Rainfall Meters (inches)	Silt Loss (tons per acre)	CONDITION OF WATERBED
	Number	Area (acres)	Age No.	Depth (feet)	Duration (minutes)	Amount (cubic feet)	MAXIMUM INTENSITY			Minimum	Maximum	Depth (hour)	Ending (hour)	Amount (cubic feet)	MAXIMUM RATE					
							6 minutes (cubic feet per hour)	18 minutes (cubic feet per hour)	30 minutes (cubic feet per hour)						Cu. ft. sec.	Time				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
1/20/37	UPW	2.112	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3							Unterraced Cultivated Waterbed	
1/20/37	UPW	2.112	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3							- Feb. 11 about 16" of snow.	
1/20/37	UCW	2.145	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3							Feb. 19 frost depths 10 to 11".	
1/20/37	UCW	2.145	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3							Snow settled by warm weather	
1/20/37	Cont W	2.145	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3							Feb. 19. Snow about gone from area.	
1/20/37	Cont W	2.145	CP	1:50P	1506	0.61	VL	VL	VL	VL	29	3								
2/3/37	UPW	2.112	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5							Centrally Waterbed same as	
2/3/37	UPW	2.112	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5							Unterraced Cultivated Waterbed.	
2/3/37	UCW	2.145	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5								
2/3/37	UCW	2.145	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5								
2/3/37	Cont W	2.145	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5								
2/3/37	Cont W	2.145	CP	5:30P	575	0.10	VL	VL	VL	VL	23	5								
2/3/37	UPW	2.112	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3							Unterraced pasture waterbed.	
2/3/37	UPW	2.112	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3							Feb. 18 frozen to depth of	
2/3/37	UCW	2.145	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3							6-12". Snow depth 6-11".	
2/3/37	UCW	2.145	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3							Feb. 19 snow about gone from area.	
2/3/37	Cont W	2.145	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3								
2/3/37	Cont W	2.145	CP	8:00P	505	0.07	VL	VL	VL	VL	25	3								
2/3/37	UPW	2.112	CP			0.05					23	10								
2/3/37	UPW	2.112	CP			0.05					23	10								
2/3/37	UCW	2.145	CP			0.05					23	10								
2/3/37	UCW	2.145	CP			0.05					23	10								
2/3/37	Cont W	2.145	CP			0.05					23	10								
2/3/37	Cont W	2.145	CP			0.05					23	10								
2/3/37	UPW	2.112	CP	3:15A	375	0.00	VL	VL	VL	VL	13	24		0.0975				None	Thaw	
2/3/37	UPW	2.112	CP	3:15A	375	0.00	VL	VL	VL	VL	13	24		0.274				0.0106	Thaw	
2/3/37	UCW	2.145	CP	3:15A	375	0.00	VL	VL	VL	VL	13	24		0.0558</						









UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH March & April 19 37  
SHEET 4 OF 11 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LaCrosse, Wisconsin

Date	WATERSHED			RAINFALL			TEMPERATURE (degrees F)			RUN-OFF				RAINFALL MINUS RUN-OFF (inches)	Silt Loss (tons per acre)	CONDITION OF WATERSHED	
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Heaven (hour)	Ruled (hour)	Amount (cubic feet)	MAXIMUM RATE				
							6 minutes (inches per hour)	18 minutes (inches per hour)	30 minutes (inches per hour)				Cu ft sec				Time
3/24/37	UPW	2,412	CP	1406A	724	0.24	VL	VL	VL							Untersced, Cultivated watershed - 2/23 snow depth 2" at top - 5" at bottom of area. 3/29 frozen to depth of 12" - 4/21 - 2" to 4" layer of unfrozen ground. 4/7 - no frost in ground. 4/14 - Subsoil medium, surface soil medium moisture.	
3/25/37	UCW	2,435	CP	1406A	724	0.31	VL	VL	VL			0.00386		Thaw	none		
3/26/37	ContW	2,705	CP	1406A	724	0.31	VL	VL	VL			0.0472		"	0.0265		
3/28/37	ContW	2,705										0.0390		"	0.0033		
3/29/37	UCW	2,435										0.0112		"	0.0015		
3/29/37	ContW	2,705														Controlled Watershed - 3/27 - snow depth 2" on upper part 5" on lower part. 3/28 upper part unfrozen to 4-1/2" frozen to 12-1/2". Lower part unfrozen to 6" - frozen 8". 3/23 no snow left on area. 4/1 - 1-1/2" frozen, then 2" unfrozen and 3-8" frozen. 4/7 no frost in ground. 4/14 surface and subsoil medium moisture.	
3/30/37	UPW	2,412	CP	12,01A	160	0.24	VL	VL	VL			0.00154		"	none		
3/31/37	UCW	2,435	CP	17,01A	160	0.24	VL	VL	VL			0.00162		"	none	Untersced Pasture Watershed - 2/23 no frost in ground - small amount of snow along lower boundary - 4/2. Rolled area where soil was relayed in 1936. 4/11 surface soil wet, subsoil moist. Seeded bare spots with pasture mixture.	
3/31/37	ContW	2,705	CP	9,58P	57	0.12	0.14	0.12	0.12								
4/3/37	UPW	2,412	CP	9,58P	57	0.12	0.14	0.12	0.12								
4/3/37	UCW	2,435	CP	9,58P	57	0.12	0.14	0.12	0.12								
4/3/37	ContW	2,705	CP	9,58P	57	0.12	0.14	0.12	0.12								
4/3/37	UPW	2,412	CP	8,33P	25	0.02	0.18	0.16	0.16								
4/3/37	UCW	2,435	CP	8,33P	25	0.02	0.18	0.16	0.16								
4/3/37	ContW	2,705	CP	8,33P	25	0.02	0.18	0.16	0.16								
4/7/37	UPW	2,412	CP			0.01											
4/7/37	UCW	2,435	CP			0.01											
4/7/37	ContW	2,705	CP			0.01											
4/11/37	UPW	2,412	CP	2,07P	73	0.05	VL	VL	VL								
4/11/37	UCW	2,435	CP	5,50P	40	0.05	0.12	0.12	0.12								
4/11/37	ContW	2,705	CP	5,50P	40	0.05	0.12	0.12	0.12								
4/11/37	UPW	2,412	CP	5,50P	40	0.05	0.12	0.12	0.12								
4/11/37	UCW	2,435	CP	5,50P	40	0.05	0.12	0.12	0.12								
4/11/37	ContW	2,705	CP	5,50P	40	0.05	0.12	0.12	0.12								
4/15/37	UPW	2,412	CP	1,00A	45	0.02	VL	VL	VL								
4/15/37	UCW	2,435	CP	1,00A	45	0.02	VL	VL	VL								
4/15/37	ContW	2,705	CP	1,00A	45	0.02	VL	VL	VL								





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH April 1 & May 19 37  
SHEET 5 OF 11 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project LaCrosse, Wisconsin

DATE	WATERSHED		Gage No.	Begin Time	Duration (minutes)	RAINFALL		MAXIMUM INVENTORY		TRANSMISSION COEFFICIENT		RUN-OFF		BASIN MINOR RUN-OFF (cfs)	BET LARS (cfs per acre)	CONDITION OF WATERSHED
	Number	Area (acres)				Amount (inches)	Amount (cfs)	At gage (cfs)	At outlet (cfs)	At outlet (cfs)	At outlet (cfs)	Peak (cfs)	Amount (cfs)	At outlet (cfs)	At outlet (cfs)	
4/17/37	UPW	2,411	CP			0.01	0.01			59	39					Underwood cultivated; watershed-
4/17/37	UCW	2,435	CP			0.01	0.01			59	39					4/20-subsoil dry-surface soil
4/17/37	ConW	2,705	CP			0.01	0.01			59	39					dry. Ground has settled. Sparse
4/17/37	UPW	2,411	CP	4:40P	392	0.12	0.12	VL	VL	51	41					cover of grain stubble, weeds
4/17/37	UCW	2,435	TP	4:40P	392	0.12	0.12	VL	VL	51	41					and clover. 5/11, surface soil
4/17/37	ConW	2,705	TP	4:40P	392	0.12	0.12	VL	VL	51	41					moist. Sod bump and sod bog dense
4/17/37	UPW	2,411	CP	12:45A	450	0.24	0.24	VL	VL	41	39					had just been concentrated in
4/17/37	UCW	2,435	TP	12:45A	450	0.24	0.24	VL	VL	41	39					field gullies. Fresh fill con-
4/17/37	ConW	2,705	TP	12:45A	450	0.24	0.24	VL	VL	41	39					tributed to high soil loss.
4/17/37	UPW	2,411	CE	3:07A	98	0.38	0.38	1.08	0.56	53	52					Center 1101 watershed. 4/20,
4/17/37	UCW	2,435	CP	3:07A	104	0.38	0.38	0.46	0.18	51	52					ground settled, rather dry and
4/17/37	ConW	2,705	CP	3:07A	104	0.38	0.38	0.46	0.18	51	52					cracked. 4/22 - alfalfa 3-5"
4/17/37	UPW	2,411	TP	3:07A	88	0.38	0.38	0.46	0.18	51	52					high. 4/21 strip harvested and
4/17/37	UCW	2,435	TP	3:07A	88	0.38	0.38	0.46	0.18	51	52					needed to harrow with plow.
4/17/37	ConW	2,705	TP	3:07A	88	0.38	0.38	0.46	0.18	51	52					timothy pasture. 4/20 surface
4/17/37	UPW	2,411	TP	3:07A	89	0.38	0.38	0.46	0.18	51	52					soil and subsoil moist. 5/11
4/17/37	UCW	2,435	TP	3:07A	89	0.38	0.38	0.46	0.18	51	52					surface soil medium, subsoil
4/17/37	ConW	2,705	TP	3:07A	89	0.38	0.38	0.46	0.18	51	52					moist. Alfalfa 8-10" high, dense.
4/17/37	UPW	2,411	CE	6:16A	249	0.10	0.10	VL	VL	41	34					Underwood pasture watershed.
4/17/37	UCW	2,435	TP	6:16A	249	0.10	0.10	VL	VL	41	34					4/20 grass making good growth.
4/17/37	ConW	2,705	TP	6:16A	249	0.10	0.10	VL	VL	41	34					4/21 surface soil dry, subsoil
4/17/37	UPW	2,411	CE	5:29P	322	0.09	0.09	VL	VL	48	35					moist, grass 1-2" high-dense.
4/17/37	UCW	2,435	TP	5:29P	335	0.09	0.09	VL	VL	48	35					5/11 surface soil medium-subsoil
4/17/37	ConW	2,705	TP	5:29P	335	0.09	0.09	VL	VL	48	35					medium. Grass 3-4" high, dense.
4/17/37	UPW	2,411	CE	4:30A	273	0.11	0.11	VL	VL	43	37					
4/17/37	UCW	2,435	TP	4:30A	266	0.13	0.13	VL	VL	43	37					
4/17/37	ConW	2,705	TP	4:30A	266	0.13	0.13	VL	VL	43	37					
4/17/37	UPW	2,411	CE	12:30P	253	0.28	0.28	0.28	0.28	59	40			0.2745	0.0016	
4/17/37	UCW	2,435	TP	12:30P	256	0.28	0.28	0.28	0.28	60	40					
4/17/37	ConW	2,705	TP	12:30P	256	0.28	0.28	0.28	0.28	60	40					
4/17/37	UPW	2,411	CE	4:07A	505	0.60	0.60	0.60	0.60	51	47					
4/17/37	UCW	2,435	TP	4:07A	488	0.60	0.60	0.60	0.60	51	47			0.5974	0.0321	
4/17/37	ConW	2,705	TP	4:07A	488	0.60	0.60	0.60	0.60	51	47					
5/2/37	UPW	2,411	CE	11:45A	105	0.19	0.19	0.19	0.19	63	51					
5/11/37	UPW	2,411	CE	9:02P	116	0.70	0.70	0.70	0.70	63	51					
5/11/37	UCW	2,435	TP	9:02P	88	0.15	0.15	0.15	0.15	63	51					
5/11/37	ConW	2,705	TP	9:02P	88	0.15	0.15	0.15	0.15	63	51					
5/11/37	UPW	2,411	TP	9:07P	114	0.72	0.72	0.72	0.72	63	51					
5/11/37	UCW	2,435	TP	9:07P	108	0.15	0.15	0.15	0.15	63	51					
5/11/37	ConW	2,705	TP	9:07P	108	0.15	0.15	0.15	0.15	63	51					
5/11/37	UPW	2,411	TP	9:07P	113	0.72	0.72	0.72	0.72	63	51			0.590	0.0321	



Project Lacrosse, Wisconsin

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 6 OF 11 SHEETS

DATE	WEATHERED		RAINFALL				TEMPERATURE (Degrees F)		HUMIDITY				RAINFALL MARCH Evapor (10000)	Soil Loss (tons per acre)	CONDITION OF WATERBOD		
	Number	Area (acres)	Order No.	Duration (minutes)	An. and Surface	MAXIMUM INTENSITY		Maximum	Minimum	Begin (hour)	End (hour)	Amount (cubed)				MAXIMUM RATE Cu ft. sec.	Time
						Evaporation (inches per hour)	If Intensity (inches per hour)										
5/15/57	UPW	2.412	CE	12:15P	0.04	VL	VL	VL	39						Underseed cultivated watershed. 17/8 surface soil moist. Sparse stand of clover 3'-6" high. New seeding of clover has fair stand. 5/15-20, total of 17 1/4 sod bag dams and 123 sod hump dams const. in lower 1/3 of area. 5/25 soil moist. Old clover 3'-4" high. Sparse. Good stand new clover.		
5/15/57	UPW	2.412	CE	9:40P	0.10	VL	VL	39									
5/15/57	UPW	2.435	TP	12:15P	0.03	VL	VL	39									
5/15/57	UPW	2.435	TP	9:40P	0.10	VL	VL	39									
5/15/57	CONCH	2.705	TP	12:15P	0.03	VL	VL	39									
5/15/57	CONCH	2.705	TP	9:40P	0.10	0.35	0.24	0.12	39								
5/15/57	UPW	2.412	CE	12:15P	0.02	Clock stopped	no record		65	47							
5/15/57	UPW	2.412	CE	9:40P	0.05	0.72	0.24	0.19	65	47							
5/15/57	CONCH	2.705	TP	12:15P	0.03	0.72	0.14	0.30	65	47							
5/15/57	CONCH	2.705	TP	9:40P	0.03	0.72	0.14	0.30	65	47							
5/15/57	UPW	2.412	CE	12:15P	0.03	0.36	0.20	0.12	63	43					Unflooded watershed. 6/15 surface and subsoil moist. Barley 3'-4" high. Alfalfa 16-17" high. dense. 5/24 #3 strip disc har- rowed and planted to corn. 5/25 alfalfa 16-17" high. Barley 7-9" high. Good stand.		
5/15/57	UPW	2.412	CE	9:40P	0.03	1.09	0.52	0.29	63	41							
5/15/57	UPW	2.412	CE	12:15P	0.03	0.20	0.14	0.11	63	41							
5/15/57	UPW	2.412	CE	9:40P	0.03	1.20	0.64	0.34	63	41							
5/15/57	CONCH	2.705	TP	12:15P	0.03	1.20	0.64	0.34	63	41							
5/15/57	CONCH	2.705	TP	9:40P	0.03	1.20	0.64	0.34	63	41							
5/15/57	UPW	2.412	CE	12:15P	0.03	0.43	0.24	0.16	73	55					Unflooded watershed. 6/15 surface and subsoil moist. Barley 3'-4" high. Alfalfa 16-17" high. dense. 5/24 #3 strip disc har- rowed and planted to corn. 5/25 alfalfa 16-17" high. Barley 7-9" high. Good stand.		
5/15/57	UPW	2.412	CE	9:40P	0.03	1.41	0.60	0.32	73	55							
5/15/57	UPW	2.412	CE	12:15P	0.03	0.43	0.18	0.28	71	60							
5/15/57	UPW	2.412	CE	9:40P	0.03	0.24	0.24	0.22	71	60							
5/15/57	CONCH	2.705	TP	12:15P	0.03	0.18	0.16	0.16	71	60							
5/15/57	CONCH	2.705	TP	9:40P	0.03	0.36	0.24	0.16	73	60							
5/15/57	UPW	2.412	CE	12:15P	0.03	1.80	0.76	0.42	73	60					Unflooded watershed. 6/15 surface and subsoil moist. Barley 3'-4" high. Alfalfa 16-17" high. dense. 5/24 #3 strip disc har- rowed and planted to corn. 5/25 alfalfa 16-17" high. Barley 7-9" high. Good stand.		
5/15/57	UPW	2.412	CE	9:40P	0.03	0.76	0.44	0.28	71	60							
5/15/57	UPW	2.412	CE	12:15P	0.03	0.24	0.24	0.24	71	60							
5/15/57	UPW	2.412	CE														





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH June and July, 1937

 SHEET 7 OF 11 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 PROJECT LaCrosse, Wisconsin

DATE	WATERSHED		Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	RAINFALL		MAXIMUM INTEREST		TEMPERATURE (degrees F.)	Hours (hour)	Rained (hour)	RUN-OFF		RAINFALL MINOR RUN-OFF (inches)	Run Loss (ton per acre)	CONDITION OF WATERSHED
	Number	Area (acres)					Estimate (inches per hour)	Actual (inches per hour)	Spillways (inches per hour)	Maximum	Minimum			Amount (inches)	Time			
6/5/37	UTW	2,412	CE	3:10A	195	0.51	1.92	0.72	0.44	70	55	3:30A	6:50A	0.0496	0.51	5:21A	0.108	Underwood cultivated watershed. 6/5 soil has medium amount of moisture. Clover offers poor cover. 6/8 out hay on upper 2/3 of area. 6/11. Removed small cutting of hay from upper 2/3 - none on lower 1/3. 6/12 surface dry - subsoil moist. Spring seeding making fair growth but affords very little cover. 6/19-20 subsoil moist-surface soil wet. Vegetative cover sparse.
6/5/37	UTW	2,412	CE	7:30A	75	0.10	0.18	0.20	VL	70	55							Controlled watershed. 6/5 surface soil medium-subsoil moist. 6/10-#3 strip cultivated corn. 6/12 alfalfa 30"-34" tall in down-dense. Corn 3-4" high. Barley 18-25" high. 6/10-20 surface soil wet-subsoil moist. 6/12-25 out alfalfa hay. 6/28-29 moved hay from area. 7/3 #3 strip cultivated corn. 10-24 high. Barley 34-40" high. Clover in barley 5-8" high.
6/5/37	UTW	2,412	TP	7:45A	65	0.12	0.36	0.28	0.18	70	55							Underwood pasture watershed. 6/5 surface soil medium-subsoil moist. 6/8 Grass 12" high. dense. 6/15 Grass forming seed. Cows not keeping area closely grazed. 6/10-20 surface soil dry-subsoil moist. Grass 4-9" high.
6/5/37	CONW	2,705	TP	3:12A	190	0.48	1.68	0.68	0.46	70	55							
6/5/37	CONW	2,705	TP	7:45A	65	0.12	0.36	0.28	0.18	70	55							
6/6/37	UTW	2,412	CE			Trace				56	48							
6/6/37	CONW	2,705	TP			0.01				56	48							
6/6/37	UTW	2,412	CE	12:00M	95	0.10	0.24	0.12	VL	51	47							
6/6/37	UTW	2,412	TP	12:00M	95	0.09	0.24	0.12	VL	51	47							
6/6/37	CONW	2,705	TP	12:00M	95	0.09	0.24	0.12	VL	51	47							
6/11/37	UTW	2,412	CE	5:05P	140	0.24	0.48	0.28	0.26	75	58							
6/11/37	UTW	2,412	CE	6:25P	330	0.52	0.12	0.32	VL	75	58							
6/11/37	UTW	2,412	CE	1:40A	150	0.12	0.12	0.12	VL	75	58							
6/11/37	UTW	2,412	TP	3:05P	135	0.06	0.18	0.08	0.24	75	58							
6/11/37	UTW	2,412	TP	6:05P	330	0.60	0.72	0.32	0.24	75	58							
6/11/37	UTW	2,412	TP	1:10A	160	0.11	0.12	0.12	VL	75	58							
6/11/37	CONW	2,705	TP	3:05P	135	0.24	0.48	0.18	0.24	75	58							
6/11/37	CONW	2,705	TP	6:05P	330	0.60	0.72	0.32	0.24	75	58							
6/11/37	CONW	2,705	TP	1:40A	160	0.11	0.12	0.12	VL	75	58							
6/15/37	UTW	2,412	CE	10:05P	47	0.16	0.72	0.44	0.28	73	58							
6/15/37	UTW	2,412	CE	1:10A	230	0.24	0.24	0.12	VL	73	60							
6/15/37	UTW	2,412	CE	3:05P						73	60							
6/15/37	UTW	2,412	TP	10:05P	191	2.00	4.32	3.48	3.22	78	60							
6/15/37	UTW	2,412	TP	1:10A	230	0.14	0.72	0.40	0.22	78	60							
6/15/37	UTW	2,412	TP	1:10A	230	0.24	0.24	0.12	VL	78	60							
6/15/37	UTW	2,412	TP	9:50P	190	2.10	4.68	3.24	3.10	78	60							
6/15/37	UTW	2,412	TP	10:05P	47	0.14	0.72	0.40	0.22	78	60							
6/15/37	CONW	2,705	TP	1:10A	230	0.24	0.24	0.12	VL	78	60							
6/15/37	CONW	2,705	TP	9:50P	190	2.10	4.68	3.24	3.10	78	60							
6/15/37	CONW	2,705	TP							78	60							
6/15/37	UTW	2,412	CE	11:10P	15	0.04	0.36	0.16	-	82	72							
6/15/37	UTW	2,412	TP	11:10P	15	0.03	0.36	0.12	-	82	72							
6/15/37	CONW	2,705	TP	11:10P	15	0.03	0.36	0.12	-	82	72							
7/3/37	UTW	2,412	CE	10:30P	30	0.10	Chart soiled	0.16	VL	87	66							
7/3/37	CONW	2,705	TP	10:30P	30	0.13	0.24	0.16	VL	87	66							
7/3/37	CONW	2,705	TP	10:30P	30	0.10	0.24	0.16	VL	87	66							



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH
MONTH July, Aug. and Sept., 1937SHEET 8 OF 11 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project LaCrosse, Wisconsin

Date	Watershed		Obs. No.	Duration (minutes)	Amount (inches)	Rainfall		Temperature (degrees F.)		Run-off		Rainfall Min. (inches)	Run-off (cfs. per acre)	Soil Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)				Amount (inches)	Duration (minutes)	Maximum	Minimum	Run-off (cfs. per acre)	Amount (inches)	Maximum Rate (cfs. per acre)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
7/17/37	UPW	2,412	CE			0.01				73	10:39A	0.4233	10:58A	0.00474	Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
7/17/37	UCW	2,335	TP			trace				73	10:11A	3.215	10:57A	0.9132	
7/17/37	Con W	2,705	TP							73	10:57A	1.0215	11:09A	0.472	
7/17/37	UPW	2,412	CE	9:00P	30	0.40	1:02	1.32	0.80	80					
7/17/37	UCW	2,335	CE	12:25A	75	0.44	0.96	0.24	0.24	83					
7/17/37	UPW	2,412	TP	9:00P	30	0.44	2:52	1.40	0.24	88					Controlled watershed, 7/25 dry, cut and planted corn. 7/29 1/2 acre cultivated corn. 7/29 surface soil very dry-subsoil dry. Alfalfa 12-20" Corn 4-7" - Barley stubble 6" clover very sparse-leaves dry weather. 8/2 out alfalfa. Surface soil dry-subsoil very dry. 8/21 hauled in alfalfa. 9/8 alfalfa 6-14" - corn 5-5-7" - clover 3-5" sparse.
7/17/37	UCW	2,335	TP	12:25A	75	0.21	1:20	0.72	0.40	83					
7/17/37	UPW	2,412	TP	9:00P	30	0.42	2:52	1.40	0.24	88					
7/17/37	UCW	2,335	TP	12:25A	75	0.21	1:20	0.72	0.40	88					
7/17/37	UPW	2,412	TP	12:25A	75	0.21	1:20	0.72	0.40	88					
8/6/37	UPW	2,412	CE	10:32A	48	1.47	1:08	2.80	2.20	71	10:39A	0.4233	10:58A	0.00474	Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
8/6/37	UCW	2,335	TP	10:11A	50	1.47	1:08	2.80	2.20	71	10:11A	3.215	10:57A	0.9132	
8/6/37	UPW	2,412	TP	10:40A	50	1.47	1:08	2.80	2.20	71	10:57A	1.0215	11:09A	0.472	
8/6/37	UPW	2,412	CE	12:45A	117	0.35	0.96	0.48	0.40	93					
8/6/37	UCW	2,335	CE	12:57A	173	0.60	0.36	0.56	0.44	93					
8/6/37	UPW	2,412	TP	12:45A	117	0.35	1:20	0.72	0.40	93					Controlled watershed, 7/25 dry, cut and planted corn. 7/29 1/2 acre cultivated corn. 7/29 surface soil very dry-subsoil dry. Alfalfa 12-20" Corn 4-7" - Barley stubble 6" clover very sparse-leaves dry weather. 8/2 out alfalfa. Surface soil dry-subsoil very dry. 8/21 hauled in alfalfa. 9/8 alfalfa 6-14" - corn 5-5-7" - clover 3-5" sparse.
8/6/37	UCW	2,335	TP	12:45A	180	0.65	1:20	0.72	0.40	93					
8/6/37	UPW	2,412	TP	12:45A	117	0.35	1:20	0.72	0.40	93					
8/6/37	UCW	2,335	TP	12:45A	180	0.65	1:20	0.72	0.40	93					
8/6/37	UPW	2,412	TP	12:45A	180	0.65	1:20	0.72	0.40	93					
8/17/37	UPW	2,412	CE	9:10A	75	0.24	0.96	0.48	0.40	82					Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
8/17/37	UCW	2,335	TP	9:15A	80	0.18	0.72	0.48	0.40	82					
8/17/37	UPW	2,412	TP	9:15A	80	0.18	0.72	0.48	0.40	82					
8/17/37	UCW	2,335	CE	6:10A	225	0.38	0.60	0.40	0.28	75					
8/17/37	UPW	2,412	TP	6:10A	225	0.38	0.60	0.40	0.28	75					
8/17/37	UPW	2,412	CE	6:20P	165	1.32	3:00	1.96	1.54	72	10:58P	0.0642	8:50A	0.00162	Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
8/17/37	UCW	2,335	TP	6:20P	165	1.29	3:00	1.99	1.46	72	10:58P	0.0642	8:50A	0.00162	
8/17/37	UPW	2,412	TP	6:20P	165	1.29	3:00	1.99	1.46	72	10:58P	0.0642	8:50A	0.00162	
8/17/37	UCW	2,335	TP	6:20P	165	1.29	3:00	1.99	1.46	72	10:58P	0.0642	8:50A	0.00162	
8/17/37	UPW	2,412	TP	6:20P	165	1.29	3:00	1.99	1.46	72	10:58P	0.0642	8:50A	0.00162	
8/17/37	UPW	2,412	CE	10:05A	130	0.47	1:56	0.80	0.46	61					Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
8/17/37	UCW	2,335	TP	10:05A	130	0.47	1:56	0.80	0.46	61					
8/17/37	UPW	2,412	TP	10:05A	130	0.47	1:56	0.80	0.46	61					
8/17/37	UCW	2,335	TP	10:05A	130	0.47	1:56	0.80	0.46	61					
8/17/37	UPW	2,412	TP	10:05A	130	0.47	1:56	0.80	0.46	61					
8/17/37	UPW	2,412	CE	Clock had stopped						72					Intertraced cultivated watershed. 7/21 surface and subsoil very dry. 8/3 surface soil very dry. Fair cover on upper 1/2-very poor on lower 1/2. 8/8 surface and subsoil very dry. 8/18-19 subsoil very dry-surface moist. Cover same as 8/3. 8/11 seeded clover, alfalfa and blue grass mixture in gullies. 8/26-30 additional work done on gullies in lower 1/3. Harvested lower 1/3 of area with Kover springtooth. 9/9 surface and subsoil dry. On lower 1/3, 100% lime, seeded 1/2 bu. of rye 1 acre and grass mixture for-tilled.
8/17/37	UCW	2,335	TP	3:00A	160	0.74	1:20	0.80	0.62	72					
8/17/37	UPW	2,412	TP	3:00A	160	0.74	1:20	0.80	0.62	72					
8/17/37	UCW	2,335	TP	3:00A	160	0.74	1:20	0.80	0.62	72					
8/17/37	UPW	2,412	TP	3:00A	160	0.74	1:20	0.80	0.62	72					





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH
MONTH Sept. & Oct., 19 37SHEET 9 OF 11 SHEETS
 PROJECT LaCrosse, Wisconsin  
 RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

DATE	WATERSHED	Number	Area (acres)	Stage No.	Begin (hour)	Duration (minutes)	Air-dry (inches)	RAINFALL			TEMPERATURE (degrees F.)		RUN-OFF				RAINFALL MEAS. RUN-OFF (inches)	Soil Loss (tons per acre)	COMMENTS ON WATERSHED
								5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Begin (hour)	Ended (hour)	Amount (inches)	On ft. sec.	Time		
9/11/37	UPW	2,412		CE	6:50P	15	0.05	0.24	0.20	-	70	51						(16)	Untersced cultivated watershed.
9/11/37	UCW	2,335		TP	7:00P	20	0.04	0.24	0.12	-	70	51							9/23 surface and subsoil very dry.
9/11/37	Cont'd	2,755		TP	7:00P	20	0.04	0.24	0.12	-	70	51							9/23 upper 1/2 clover 3-5' high.
9/23/37	UPW	2,412		CE	8:50P	10	0.06	VL	VL	VL	87	71							surface, fair cover-needed. Good
9/23/37	UPW	2,412		CE	9:01A	92	0.24	1.32	0.60	0.30	63	58							catch from new seedling on lower
9/23/37	UPW	2,412		CE	9:55A	110	0.14	VL	VL	VL	87	71							1/3 of area. 10/4 subsoil very
9/23/37	UCW	2,335		TP	2:03A	92	0.22	1.32	0.52	0.26	62	58							dry-surface soil dry.
9/23/37	UCW	2,335		TP	5:57A	103	0.16	0.48	0.24	0.16	62	58							Controlled watershed- 9/17
9/23/37	Cont'd	2,755		TP	8:50P	50	0.04	VL	VL	VL	87	58							#3 strip-cut and checked some.
9/23/37	Cont'd	2,705		TP	9:23A	92	0.22	1.32	0.52	0.26	63	58							9/23 surface and subsoil dry.
9/23/37	Cont'd	2,705		TP	5:37A	103	0.16	0.48	0.24	0.16	62	58							2/23 alfalfa 10-12' high-some
9/23/37	UPW	2,412		CE	7:15A	353	0.18	VL	VL	VL	45	42							and barley stubble. 9/23 surface
9/23/37	UPW	2,412		CE	7:16A	352	0.17	VL	VL	VL	45	42							soil moist-subsoil dry. 2/27
9/23/37	Cont'd	2,755		TP	7:16A	352	0.17	VL	VL	VL	45	42							#3 strip-banded corn from area
9/23/37	UPW	2,412		CE	5:50A	5	0.02	0.24	-	-	76	42							and checked it.
9/23/37	UPW	2,412		CE	10:10A	50	0.02	VL	VL	VL	76	42							Untersced pasture watershed.
9/23/37	UCW	2,335		TP	5:50A	5	0.02	0.24	-	-	76	42							9/23 grass 2-3' high-half mowed.
9/23/37	UCW	2,335		TP	10:10A	50	0.02	VL	VL	VL	76	42							1/23 surface soil and subsoil
9/23/37	Cont'd	2,705		TP	5:50A	5	0.02	0.24	-	-	76	42							Medium.
9/23/37	Cont'd	2,705		TP	10:10A	50	0.02	VL	VL	VL	76	42							
10/1/37	UPW	2,412		CE	12:45A	85	0.06	0.12	VL	VL	58	56							
10/1/37	UCW	2,335		TP	12:45A	85	0.05	0.12	VL	VL	58	56							
10/1/37	Cont'd	2,705		TP	12:45A	85	0.05	0.12	VL	VL	58	56							
10/1/37	UPW	2,412		CE	1:50P	60	0.04	VL	VL	VL	67	55							
10/1/37	UPW	2,412		CE	7:45P	205	0.54	0.60	0.40	0.34	67	55							
10/1/37	UCW	2,335		TP	1:50P	60	0.03	VL	VL	VL	67	55							
10/1/37	UCW	2,335		TP	7:45P	205	0.58	0.72	0.36	0.26	67	55							
10/1/37	Cont'd	2,705		TP	1:50P	60	0.03	VL	VL	VL	67	55							
10/1/37	Cont'd	2,705		TP	7:45P	205	0.58	0.72	0.36	0.26	67	55							
10/19/37	UPW	2,412		TP	1:25A	435	0.33	0.24	0.16	VL	59	53							
10/19/37	UPW	2,412		TP	3:25P	22	0.12	0.64	0.36	VL	59	53							
10/19/37	UCW	2,335		TP	1:25A	435	0.33	0.24	0.16	VL	59	53							
10/19/37	UCW	2,335		TP	3:25P	22	0.12	0.64	0.36	VL	59	53							
10/19/37	Cont'd	2,705		TP	1:25A	435	0.33	0.24	0.16	VL	59	53							
10/19/37	Cont'd	2,705		TP	3:25P	22	0.12	0.64	0.36	VL	59	53							
10/10/37	UPW	2,412		CE	5:15A	50	0.04	0.22	VL	VL	64	43							
10/10/37	UCW	2,335		TP	5:15A	50	0.24	0.12	VL	VL	64	43							
10/10/37	Cont'd	2,755		TP	5:15A	50	0.44	0.22	VL	VL	64	43							





## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Product: **Lacrosse, Wisconsin**

Date	Weathered		Rainfall										Irrigation #4 (Gage #1)				Report				Rainfall Meter Reading (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Days No Rain	Duration (minutes)	Amount (inches)	Maximum Irrigation			Minimum	Begin (hour)	End (hour)	Amount (inches)	Maximum Rate		Time								
						5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)					Cu ft sec										
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	Untreated cultivated watershed. 10/12-13 plowed upper 2/3 of area on contour with two-way plow, throwing earth uphill. 10/16 subsoil dry. 11/7 soil moist. Soil loose in plowed condition. Sod hump dams in good condition.  Controlled watershed. 10/13 25 strip plowed on contour with two-way plow, throwing earth up- hill. 10/16 surface soil moist- subsoil dry. 11/3 surface soil dry. Subsoil moist. Plowed strips loose and dry. Alfalfa dry and compact.  Untreated pasture watershed. 11/11 strip plowed area. Grass had been grazed rather close. 11/7 soil dry and compact.					
10/16/37	UW	2,112	CE	1,000A	345	0.12	0.12	VL	VL	VL													
10/16/37	UW	2,112	CE	7,450P	30	0.02	0.12	VL	VL	VL													
10/16/37	UW	2,112	CE	1,000A	1335	0.78	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	21,000A	345	0.10	0.12	VL	VL	VL													
10/16/37	UW	2,112	TP	7,450P	30	0.02	0.12	VL	VL	VL													
10/16/37	UW	2,112	TP	1,000A	1335	0.80	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	1,000A	345	0.10	0.12	VL	VL	VL													
10/16/37	UW	2,112	TP	7,450P	30	0.02	0.12	VL	VL	VL													
10/16/37	UW	2,112	TP	7,450P	1335	0.80	0.24	VL	0.16	VL													
10/16/37	UW	2,112	CE	9,200P	90	0.10	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	9,200P	90	0.10	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	7,450P	50	0.10	0.24	VL	0.16	VL													
10/16/37	UW	2,112	CE	12,000A	135	0.15	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	12,000A	135	0.15	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	12,000A	960	1.02	0.12	VL	0.16	VL													
10/16/37	UW	2,112	TP	12,000A	135	0.15	0.24	VL	0.16	VL													
10/16/37	UW	2,112	TP	12,000A	960	1.02	0.12	VL	0.16	VL													
10/16/37	UW	2,112	CE	10,450P	15	0.01	VL	VL	VL	VL													
10/16/37	UW	2,112	TP	10,450P	15	0.01	VL	VL	VL	VL													
10/16/37	UW	2,112	TP	10,450P	15	0.01	VL	VL	VL	VL													
10/16/37	UW	2,112	CE	10,000A	187	1.45	2.16	1.44	0.56	1.02													
10/16/37	UW	2,112	TP	20,000A	187	1.45	2.41	1.53	1.02	1.02													
10/16/37	UW	2,112	TP	10,000A	187	1.45	2.41	1.53	1.02	1.02													
10/16/37	UW	2,112	CE			0.02																	
10/16/37	UW	2,112	TP			0.02																	
10/16/37	UW	2,112	TP			0.02																	
10/16/37	UW	2,112	CE	11,050P	675	0.13	VL	VL	VL	VL													
10/16/37	UW	2,112	CE	11,050P	675	0.13	VL	VL	VL	VL													
10/16/37	UW	2,112	TP	11,050P	675	0.13	VL	VL	VL	VL													
10/16/37	UW	2,112	TP	11,050P	675	0.13	VL	VL	VL	VL													



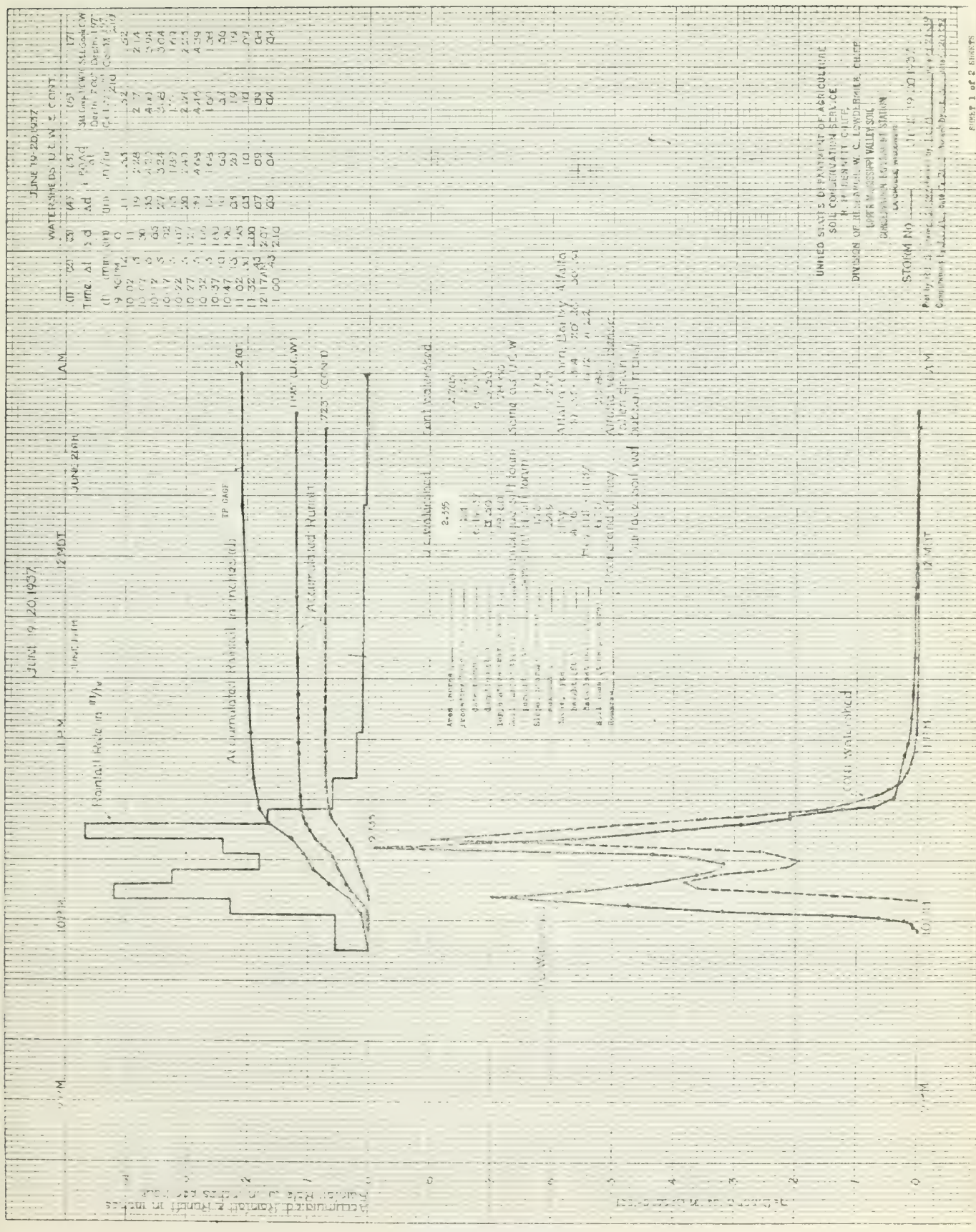
PROJECT La Crosse, Wisconsin

SHEET 11 OF 11 SHEETS

STATION	W. MEASUREMENTS		RAINFALL				TEMPERATURES (Fahrenheit)		HYDROGRAPH				RAINFALL MINUTES (hours)	RHYTHM (miles per acre)	CONDITION OF WATERSHED	
	NUMBER	Area (sq. miles)	Stage No.	Begin hour	Duration (minutes)	Amount (inches)	MAXIMUM INTEREST		Amount (inches)	Peak (feet)	Amount (inches)	MAXIMUM RATE				
							Amount (inches)	Direction (miles per hour)				Cu ft. sec.				Time
1/19/37	UPW	2,412	CP	2,415A	375	0.07	VL	VL	VL	23	16	(19)			Unterspread cultivated watershed.	
1/20/37	UCW	2,335	CP	2,415A	375	0.05	VL	VL	VL	23	16	(18)			11/19 frost depth 7-17". 11/27	
1/21/37	Cont'd	2,705	CP	2,415A	375	0.05	VL	VL	VL	23	16	(17)			unfrozen to depth of 3"-frozen	
1/22/37	UPW	2,412	CP			0.01	Snow flurries			18	13				6". 12/14 ground frozen - very	
1/23/37	UCW	2,335	CP			0.01	"			18	13				little snow on ground. 12/31	
1/24/37	Cont'd	2,705	CP			0.01	"			18	13				average depth of snow on ground	
1/25/37	UPW	2,412	CP	11,10A	390	0.57	0.18	0.12	VL	52	31				1-1/4" - water equivalent 0.23"	
1/26/37	UCW	2,335	CP	11,10A	390	0.57	0.15	0.12	VL	52	31				at end of year.	
1/27/37	Cont'd	2,705	CP	11,10A	390	0.57	0.18	0.12	VL	52	31				Controlled watershed. 11/19	
1/28/37	UPW	2,412	CP			trace	snow			28	8				snow depth 1". Frost 7 1/2" deep	
1/29/37	UCW	2,335	CP			"	"			28	8				on plowed strips-3" in alfalfa.	
1/30/37	Cont'd	2,705	CP			"	"			28	8				11/27 plowed area. Unfrozen	
1/31/37	UPW	2,412	CP	5,30A	510	0.03	VL	VL	VL	20	4				3"-frozen 6". Alfalfa unfrozen	
2/1/37	UCW	2,335	CP	5,30A	510	0.03	VL	VL	VL	20	4				2"-frozen 2". 12/31 average	
2/2/37	Cont'd	2,705	CP	5,30A	510	0.03	VL	VL	VL	20	4				depth of snow 3 1/2"-water equivalent	
2/3/37	UPW	2,412	CP	7,15P	195	0.08	snow and sleet			25	9				lent 0.83" at end of year.	
2/4/37	UCW	2,335	CP	7,15P	195	0.08	"			25	9				Unterspread pasture watershed.	
2/5/37	Cont'd	2,705	CP	7,15P	195	0.08	"			25	9				11/29 frost depth 13". 12/31	
2/6/37	UPW	2,412	CP	6,30A	390	0.07	snow			23	18				average depth of snow 2-1/16"	
2/7/37	UCW	2,335	CP	6,30A	390	0.07	"			23	18				water equivalent of 0.48" at	
2/8/37	Cont'd	2,705	CP	6,30A	390	0.07	"			23	18				end of year.	
2/9/37	UPW	2,412	CP	12,05A	205	0.19	0.19	0.15	VL	34	6					
2/10/37	UCW	2,335	CP	12,05A	205	0.18	0.18	0.15	VL	34	6					
2/11/37	Cont'd	2,705	CP	12,05A	205	0.18	0.19	0.15	VL	34	6					
2/12/37	UPW	2,412	CP	10,00P			snow and rain			20	0					
2/13/37	UCW	2,412	CP	10,00P	150	0.12	VL	VL	VL	26	2					
2/14/37	Cont'd	2,705	CP	10,00P	150	0.12	VL	VL	VL	26	2					
2/15/37	UPW	2,412	CP	10,00P	150	0.12	VL	VL	VL	26	2					
2/16/37	UCW	2,335	CP							35	16					
2/17/37	Cont'd	2,705	CP							35	16					
2/18/37	UPW	2,412	CP	5,145A	90	0.01	snow			35	16					
2/19/37	UCW	2,335	CP	5,145A	90	0.01	"			35	16					
2/20/37	Cont'd	2,705	CP	5,145A	90	0.01	"			35	16					
2/21/37	UPW	2,412	CP	1,135A	265	0.09	VL	VL	VL	36	25					
2/22/37	UCW	2,335	CP	1,135A	265	0.03	VL	VL	VL	36	25					
2/23/37	Cont'd	2,705	CP	1,135A	265	0.09	VL	VL	VL	36	25					





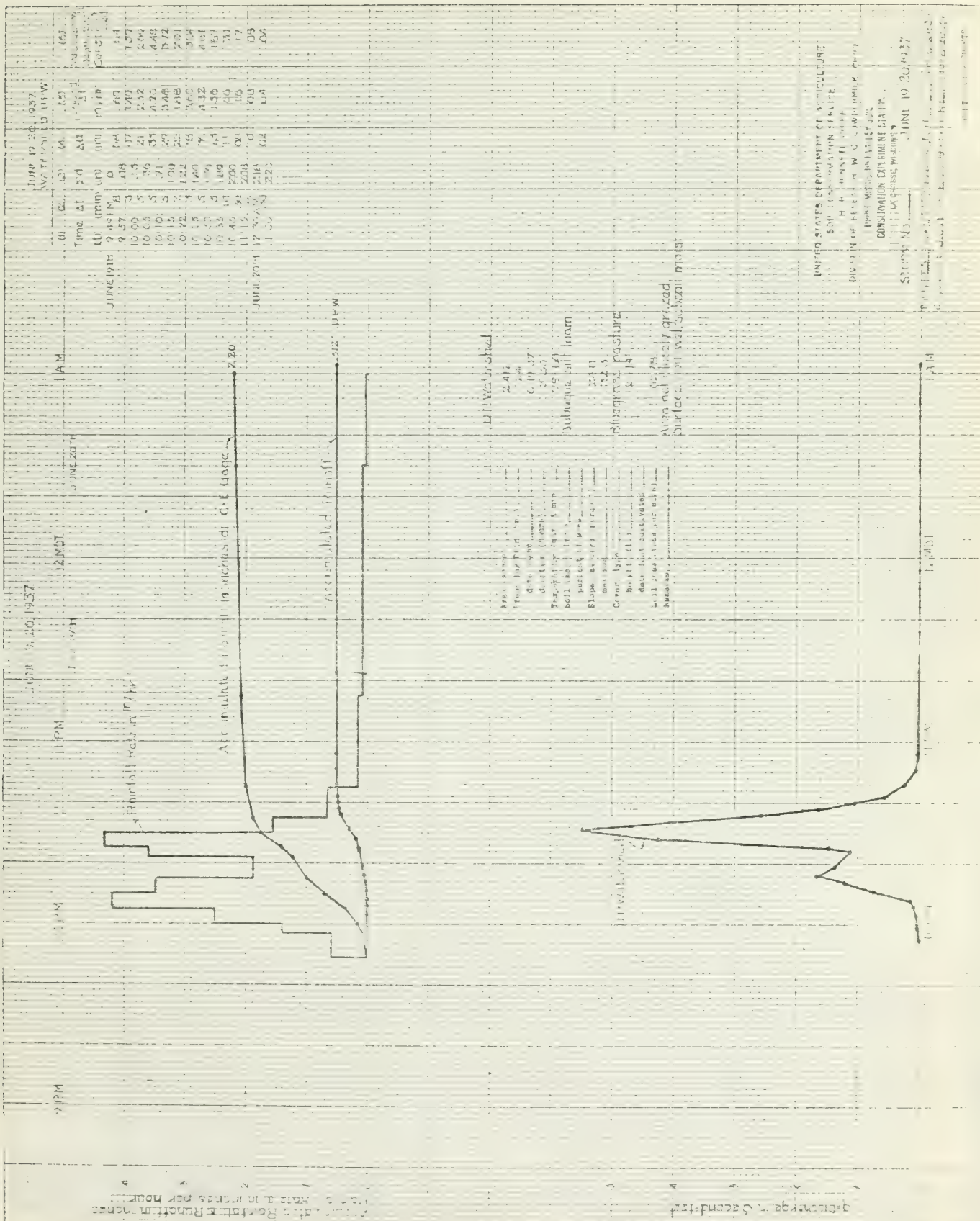


UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 R. H. DENNETT CHIEF  
 DIVISION OF HYDROLOGY, W. C. LOWMEYER, CHIEF  
 UPPER MISSISSIPPI VALLEY SOIL  
 CONSERVATION DISTRICT STATION  
 LAUREL, MISSISSIPPI

STORM NO. 1111  
 Date: June 19, 1937  
 Location: Upper Mississippi Valley  
 Station: Laurel, Mississippi  
 Sheet 1 of 2



תורת המשפט של פאלי-ויליאמס













AUGUST 5-1937

26615776

12 noon



WATTS &amp; LANE

[illegible]

Pinkney

[illegible]

1870-1871

UNION STATE OF CALIFORNIA  
S. H. LEE, J. C. LEE, J. C. LEE

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U.S. NATIONAL ARCHIVES  
COLLEGE PARK, MARYLAND

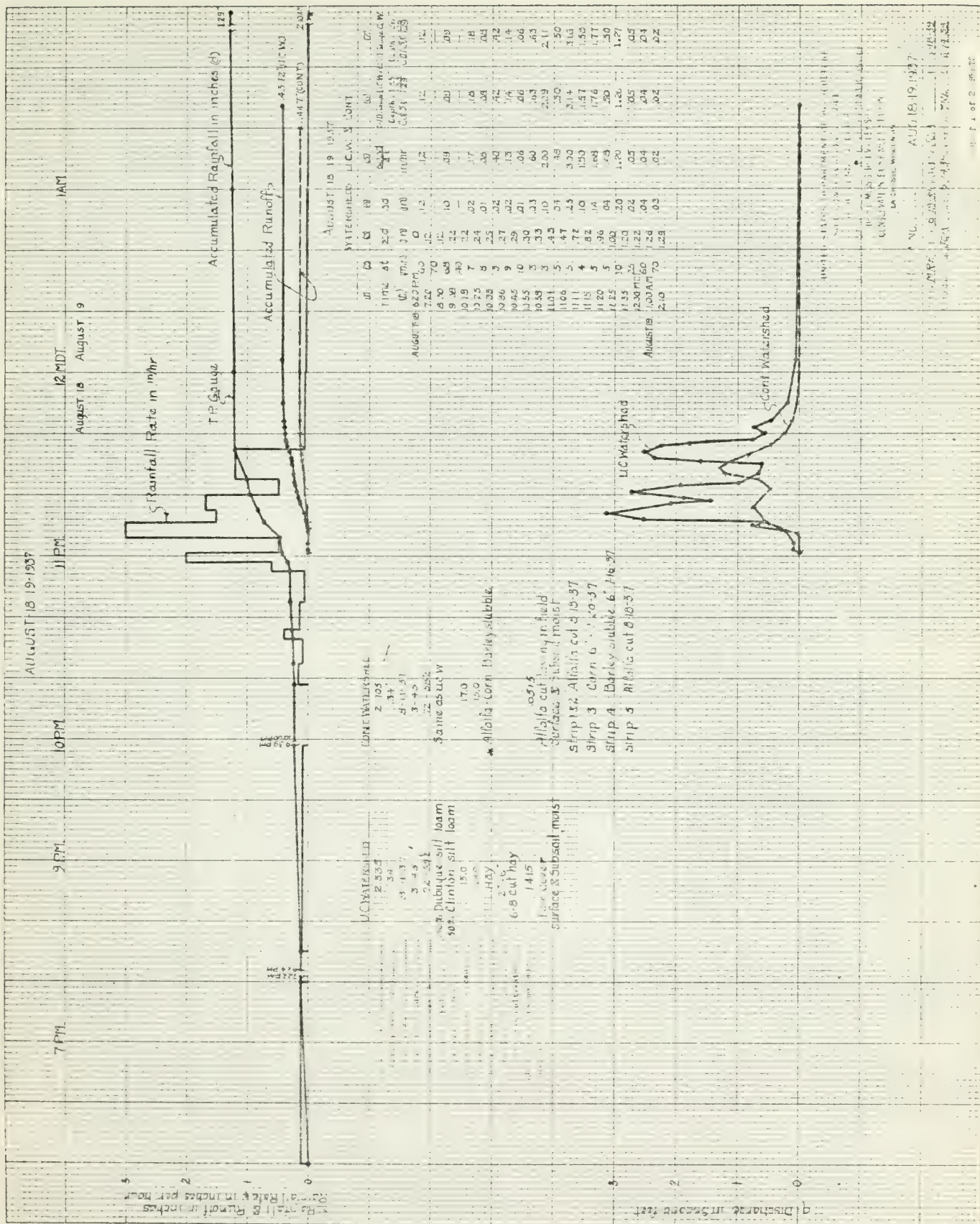
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Page 2 of 2











AUGUST 18-19, 1937

2 PM 10 PM 12 MIDT 1 PM

August-10 August-11

Run-off in inches per hour

Rainfall Rate in mm

Accumulated Rainfall in inches

2.81 Gauge

Accumulated Runoff

0.81 in FWT

August 19, 1937

WATERGATE D.P.W.

Time of day

Run-off

mm

in

ft

mi

sec

min

hr

day

month

year

total

average

maximum

minimum

range

standard deviation

coefficient of variation

skewness

kurtosis

moment generating function

characteristic function

probability density function

cumulative distribution function

hazard function

survival function

reliability function

failure rate function

mean time to failure

median time to failure

mode time to failure

Water shed

100

50

25

12.5

6.25

3.125

1.5625

0.78125

0.390625

0.1953125

0.09765625

0.048828125

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0.01220703125

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4.76837158203125e-05

2.384185791015625e-05

1.1920928955078125e-05

5.9604644775390625e-06

2.98023223876953125e-06

1.4901161193847656e-06

7.450580596923828e-07

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

WATER RESOURCES DIVISION

HYDROLOGICAL ENGINEERING

STATION NO. 1000

DATE 10/15/37

BY J. H. HARRIS

10/15/37

10/15/37

10/15/37



NOVEMBER 8 1937

2 AM

2 AM

2 AM

5 AM

Accumulated Runoff in inches per hour.

Accumulated Runoff Rate in inch.

Accumulated Runoff Rate in inch.

Accumulated Runoff

Rate in inch.

Accumulated Runoff

Rate in inch.

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Rate in inch.

Accumulated Runoff

Rate in inch.

UNIT STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

DIVISION OF SOIL CONSERVATION

OFFICE OF SOIL CONSERVATION

WASHINGTON, D. C.

NOVEMBER 8 1937

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1968

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT  
LACROSSE, WISCONSIN

W. TEMPERED		RAINFALL				TEMPERATURE (degrees F)			RUNOFF				RAINFALL METERS (inches)	SOIL LOSS (tons per acre)	REMARKS
Date	Number	Area (acres)	Gage No.	Depth (inches)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Begin (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE		
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)				Cu ft. sec.	Time	
1/1/38	UPW	2.412	CP			trace									Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 2" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4"
1/1/38	CONTH	2.705	CP			"									
1/1/38	CONTH	2.705	CP			"									
1/10/38	UPW	2.412	CP	6:40P	190	0.03	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 2" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4"
1/10/38	UPW	2.412	CP	6:40P	190	0.03	VL	VL	VL						
1/10/38	CONTH	2.705	CP	6:40P	190	0.03	VL	VL	VL						
1/11/38	UPW	2.412	CP	5:00A	570	0.11	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 2" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4"
1/11/38	UPW	2.412	CP	5:00A	570	0.11	VL	VL	VL						
1/11/38	CONTH	2.705	CP	5:00A	570	0.11	VL	VL	VL						
1/12/38	UPW	2.412	CP	10:50A	100	0.01	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/12/38	UPW	2.412	CP	10:50A	100	0.01	VL	VL	VL						
1/12/38	CONTH	2.705	CP	10:50A	100	0.01	VL	VL	VL						
1/13/38	UPW	2.412	CP	1:00A	120	0.01	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/13/38	UPW	2.412	CP	1:00A	120	0.01	VL	VL	VL						
1/13/38	CONTH	2.705	CP	1:00A	120	0.01	VL	VL	VL						
1/14/38	UPW	2.412	CP	12:15A	315	0.08	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/14/38	UPW	2.412	CP	12:15A	315	0.08	VL	VL	VL						
1/14/38	CONTH	2.705	CP	12:15A	315	0.08	VL	VL	VL						
1/15/38	UPW	2.412	CP	10:30P	1515	0.53	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/15/38	UPW	2.412	CP	10:30P	1515	0.53	VL	VL	VL						
1/15/38	CONTH	2.705	CP	10:30P	1515	0.53	VL	VL	VL						
1/16/38	UPW	2.412	CP	1:00A	140	0.18	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/16/38	UPW	2.412	CP	1:00A	140	0.18	VL	VL	VL						
1/16/38	CONTH	2.705	CP	1:00A	140	0.18	VL	VL	VL						
1/17/38	UPW	2.412	CP	5:00P	255	0.09	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/17/38	UPW	2.412	CP	5:00P	255	0.09	VL	VL	VL						
1/17/38	CONTH	2.705	CP	5:00P	255	0.09	VL	VL	VL						
1/18/38	UPW	2.412	CP	12:00N	255	0.02	VL	VL	VL						Increased pasture watered. Area in permanent pasture. Grazing was discontinued. 1/1 snow depth 1-1/4" water equivalent 0.03" ground frozen. 1/23 then unfrozen 3/4" hay area.
1/18/38	UPW	2.412	CP	12:00N	255	0.02	VL	VL	VL						
1/18/38	CONTH	2.705	CP	12:00N	255	0.02	VL	VL	VL						



# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Lacrosse, Wisconsin[illegible]





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
DIVISION OF RESEARCH

MONTH **March** 19 **38**  
SHEET **3** OF **17** SHEETS

PROJECT **LaCrosse, Wisconsin**

DATE	WATERSHED		RAINFALL						TEMPERATURE (degrees F.)		RUSH-OUT			RAINFALL MEAS. (inches)	SOIL LOSS (tons per acre)	CONDITION OF WATERSHED	
	Number	Area (acres)	Gage No.	Bench (feet)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)				Cu. ft. sec.				Time
3/1/38	UCW	2,415				0.01	0.12	0.12	VL	52	27	0.0004	none	Unfrozen pasture watershed.			
3/1/38	ContW	2,705				0.01	0.12	0.12	VL	52	27	0.0056	none	2/3 snow all off area.			
3/2/38	UPW	2,412	CP	7+00A	300	0.01	VL	VL	VL	39	27			Frozen 16". 2/7 frozen 24".			
3/2/38	UPW	2,415	CP	7+00A	300	0.01	VL	VL	VL	39	27			unfrozen 1". Snow melting off.			
3/2/38	ContW	2,705	CP	7+00A	300	0.01	VL	VL	VL	39	27			2/15 frost gone from most of area.			
3/4/38	UPW	2,412	CP	12+15A	390	0.23	0.12	0.12	VL	23	11			Unfrozen cultivated watershed.			
3/4/38	UPW	2,412	CP	10+10A	175	0.13	0.22	0.12	VL	23	11						
3/4/38	UPW	2,415	CP	12+15A	390	0.23	0.12	0.12	VL	23	11						
3/4/38	UPW	2,415	CP	10+10A	175	0.13	0.22	0.12	VL	23	11						
3/4/38	ContW	2,705	CP	10+10A	175	0.13	0.22	0.12	VL	23	11						
3/7/38	UPW	2,412				0.01	0.12	0.12	VL	31	9	0.0037	none	Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/7/38	UPW	2,415				0.01	0.12	0.12	VL	31	9	0.0055	none				
3/7/38	UPW	2,415				0.01	0.12	0.12	VL	33	11	0.0237	none				
3/7/38	UPW	2,415				0.01	0.12	0.12	VL	36	17	0.0770	0.0021				
3/7/38	ContW	2,705				0.01	0.12	0.12	VL	38	20	0.0159	none				
3/11/38	UPW	2,415				0.01	0.12	0.12	VL	15	21	0.0082	none	Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/11/38	UPW	2,415				0.01	0.12	0.12	VL	22	6	0.0060	none				
3/11/38	UPW	2,415				0.01	0.12	0.12	VL	31	9	0.0511	0.0003				
3/11/38	UPW	2,415				0.01	0.12	0.12	VL	36	17	0.0137	0.0001				
3/11/38	ContW	2,705				0.01	0.12	0.12	VL	30	20	0.0016	none				
3/12/38	UPW	2,412				0.01	0.12	0.12	VL	15	21	0.0032	none	Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/12/38	UPW	2,415				0.01	0.12	0.12	VL	62	29	0.0038	none				
3/12/38	UPW	2,412				0.01	0.12	0.12	VL	33	24	0.0011	0.00032				
3/12/38	UPW	2,415				0.01	0.12	0.12	VL	33	24						
3/12/38	UPW	2,415				0.01	0.12	0.12	VL	35	27						
3/15/38	UPW	2,412	B	11+10A	355	0.49	0.18	0.18	VL	33	24	0.0078	0.0058	Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/15/38	UPW	2,412	B	6+15P	185	0.06	0.12	0.12	VL	33	24						
3/15/38	UPW	2,412	B	3+30A	165	0.03	0.12	0.12	VL	35	27						
3/15/38	UPW	2,412	B	2+00P	195	0.01	0.12	0.12	VL	35	27						
3/15/38	UPW	2,412	B	6+15P	190	0.06	0.12	0.12	VL	33	24						
3/16/38	UPW	2,415	SP	3+30A	165	0.03	0.12	0.12	VL	35	27			Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/16/38	UPW	2,415	SP	2+00P	165	0.03	0.12	0.12	VL	35	27						
3/16/38	UPW	2,415	SP	11+00A	360	0.52	0.18	0.18	VL	33	24	0.0133	0.0038				
3/16/38	UPW	2,415	SP	6+15P	190	0.08	0.12	0.12	VL	33	24						
3/16/38	UPW	2,415	SP	3+30A	165	0.03	0.12	0.12	VL	35	27						
3/18/38	UPW	2,412	B	9+00P	35	0.01	0.12	0.12	VL	65	34			Controlled watershed. 2/3 snow off area. Plowed strip frozen 36". Hay strips frozen 17". Frost depths for later dates same as UCH above.			
3/18/38	UPW	2,415	SP	9+00P	30	0.01	0.12	0.12	VL	65	34						
3/18/38	UPW	2,415	SP	9+00P	30	0.01	0.12	0.12	VL	65	34						



# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Pacific  
LaCrosse, Wisconsin

Date	Weathered		Rainfall						Temperature (degrees F)				Run-off			Runoff Meters (inches)	Run Loss (loss per acre)	Comments or Remarks	
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate				
							8 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						On ft. sec.				Time
11/11/38	UTW	2.412	E	12:05A	75	0.07	0.24	0.12	VL	47	35							Untreated pasture watershed, 3/18. frost out of ground.	
11/12/38	UCF	2.245	SP	12:05A	80	0.07	0.24	0.12	VL	47	35							Surface and subsoil wet. 3/25	
11/13/38	Cont'd	2.705	CP	12:05A	80	0.07	0.24	0.12	VL	47	35							no frost, grass making good start. 3/30 surface soil wet, subsoil moist - good cover.	
11/14/38	UTW	2.412	E	12:05A	25	0.02	1.80	0.84	-	45	40							Untreated cultivated watershed 3/18. unfrozen 9" - frozen to 20". 3/25 frost out of ground - ground settling. 3/30 surface soil wet - subsoil moist.	
11/15/38	UTW	2.412	SP	12:05A	20	0.02	1.80	0.84	-	45	40							Controlled watershed. 3/18. plowed strip unfrozen 9" - frozen to 20". Hay strips unfrozen 9" - frozen to 20". 3/25 frost out of ground - ground settling.	
11/16/38	Cont'd	2.705	SP	12:05A	20	0.02	1.80	0.84	-	45	40								
11/17/38	Cont'd	2.705	SP	12:05A	20	0.02	1.80	0.84	-	45	40								
11/18/38	UTW	2.412	E	12:05A	32	0.12	0.60	0.20	0.23	53	43								
11/19/38	UTW	2.412	E	12:05A	48	0.10	0.36	0.20	0.16	53	43								
11/20/38	UTW	2.412	E	12:05A	30	0.12	0.48	0.32	0.24	53	43								
11/21/38	UTW	2.412	SP	12:05A	27	0.09	0.48	0.28	-	53	43								
11/22/38	UTW	2.412	SP	12:05A	45	0.07	0.36	0.12	VL	53	43								
11/23/38	UTW	2.412	SP	12:05A	35	0.10	0.48	0.32	0.18	53	43								
11/24/38	UTW	2.412	SP	12:05A	27	0.09	0.48	0.28	-	53	43								
11/25/38	UTW	2.412	SP	12:05A	45	0.07	0.36	0.12	-	53	43								
11/26/38	Cont'd	2.705	SP	12:05A	35	0.10	0.48	0.32	0.18	53	43								
11/27/38	Cont'd	2.705	SP	12:05A	35	0.10	0.48	0.32	0.18	53	43								
11/28/38	UTW	2.412	E	12:05A	100	0.10	0.12	VL	VL	60	41								
11/29/38	UTW	2.412	E	12:05A	30	0.16	0.24	0.16	0.12	60	41								
11/30/38	UTW	2.412	E	12:05A	110	0.24	0.36	0.20	0.18	64	45								
12/1/38	UTW	2.412	SP	12:05A	90	0.10	0.18	VL	VL	60	41								
12/2/38	UTW	2.412	SP	12:05A	275	0.18	0.24	0.16	VL	60	41								
12/3/38	UTW	2.412	SP	12:05A	108	0.02	0.48	0.32	0.24	64	45								
12/4/38	UTW	2.412	SP	12:05A	90	0.10	0.18	VL	VL	60	41								
12/5/38	UTW	2.412	SP	12:05A	275	0.13	0.24	0.16	VL	64	45								
12/6/38	Cont'd	2.705	SP	12:05A	108	0.02	0.48	0.32	0.24	64	45								
12/7/38	Cont'd	2.705	SP	12:05A	108	0.02	0.48	0.32	0.24	64	45								
12/8/38	UTW	2.412	E	12:05A	32	0.06	0.36	0.24	0.12	60	46								
12/9/38	UTW	2.412	E	12:05A	240	0.63	0.60	0.40	0.24	60	46								
12/10/38	UTW	2.412	SP	12:05A	17	0.06	0.24	0.20	-	60	46								
12/11/38	UTW	2.412	SP	12:05A	235	0.72	0.72	0.40	0.24	60	46								
12/12/38	UTW	2.412	SP	12:05A	235	0.66	0.24	0.20	-	60	46								
12/13/38	Cont'd	2.705	SP	12:05A	235	0.65	0.24	0.20	0.24	60	46								
12/14/38	Cont'd	2.705	SP	12:05A	235	0.65	0.24	0.20	0.24	60	46								
12/15/38	UTW	2.412	E	12:05A	235	trace	trace	0.40	0.24	32	23								
12/16/38	UTW	2.412	SP	12:05A	235	trace	trace	0.40	0.24	32	23								
12/17/38	Cont'd	2.705	SP	12:05A	235	trace	trace	0.40	0.24	32	23								





MONTH April 1938

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# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

1700

Date	WATERED		BARRILL				MAXIMUM IMPROVEMENT				1 IMPROVEMENTS (degrees F.)		RUM-OFF				RAINFALL MINUS RUM-OFF (inches)	Avg. Loss (tons per acre)	CONDITION OF WATERBED		
	Number	Area (acres)	Stage No.	Height (feet)	Duration (minutes)	Amount (inches)	MAXIMUM IMPROVEMENT			Maximum	Minimum	Soiled (hours)	Amount (inches)	MAXIMUM RATE							
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)					On ft. sec.	Time						
1/14/38	UPW	2.412	E	14.25P	132	0.12	1.92	0.76	0.60	66	55										
1/14/38	UPW	2.412	E	9.10P	24	0.06	0.24	0.20		66	55										
1/14/38	UPW	2.415	SP	1.25P	130	0.34	1.92	0.76	0.52	66	55										
1/14/38	UPW	2.415	SP	9.11P	31	0.04	0.12	VL	VL	66	55										
1/14/38	CONTR	2.705	SP	1.25P	130	0.34	1.92	0.76	0.52	66	55										
1/14/38	CONTR	2.705	SP	9.11P	31	0.04	0.12	VL	VL	66	55										
1/14/38	UPW	2.412	E	14.35A	20	0.02	VL	VL	VL	54	50										
1/14/38	UPW	2.412	E	7.00P	135	0.11	0.12	VL	VL	54	50										
1/14/38	UPW	2.412	E	1.10A	20	0.03	VL	VL	VL	54	50										
1/14/38	UPW	2.412	E	2.55A	20	0.03	VL	VL	VL	54	50										
1/14/38	UPW	2.412	E	10.35A	95	0.12	0.24	0.16	0.76	66	55										
1/14/38	UPW	2.412	E	5.10P	85	0.08	0.24	0.16	0.76	66	55										
1/14/38	UPW	2.412	E	0.05A	15	0.03	0.12	0.12	0.12	71	69										
1/14/38	UPW	2.412	E	2.10P	35	0.11	0.12	0.24	0.12	71	69										
1/14/38	UPW	2.412	E	14.35A	20	0.03	VL	VL	VL	54	50										
1/14/38	UPW	2.412	E	11.55A	85	0.13	0.24	0.18	0.12	54	50										
1/14/38	UPW	2.412	E	7.00P	135	0.08	0.12	VL	VL	54	50										
1/14/38	UPW	2.412	E	1.10A	20	0.03	VL	VL	VL	54	50										
1/14/38	UPW	2.412	E	3.55A	20	0.02	VL	VL	VL	65	65										
1/14/38	UPW	2.412	E	10.35A	90	0.12	0.24	0.16	0.12	65	65										
1/14/38	UPW	2.412	E	5.11P	84	0.09	0.24	0.16	0.68	65	65										
1/14/38	UPW	2.412	E	6.08A	14	0.04	0.24	0.16	0.68	71	69										
1/14/38	UPW	2.412	E	6.52P																	





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH

 MONTH April & May, 19 38  
 SHEET 6 OF 17 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

 PROJECT Lacrosse, Wisconsin

WATERBED		RAINFALL				TEMPERATURE (degrees F)				RUN-OFF				RAINFALL MEASUREMENT (inches)		SILT LOSS (tons per acre)		CONDITION OF WATERBED
Date	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Peak (hour)	Amount (inches)	Cu R. sec	Time	Runoff (inches)	Runoff (cfs)	
5/27/38	UPW	2.412	E	3:27P	16	0.16	1.44	0.62	-	75	54	5:52P	8:27P	0.018	6:56P	1.0916	0.00135	Unterraced pasture watershed. 5/3 grass 2 to 3" - has good cover - alfalfa good cover 5/7 grass 3" to 4"
5/27/38	UPW	2.412	E	5:15P	14	0.10	2.42	1.92	VL	75	54							
5/27/38	UPW	2.412	E	1:45A	35	0.03	0.24	0.12	VL	50	49							
5/27/38	UPW	2.412	E	6:05A	7	0.02	0.16	0.08	-	75	54							
5/27/38	UPW	2.412	SP	3:30P	15	0.12	1.20	0.18	1.26	75	54							
5/27/38	UPW	2.412	SP	2:15A	10	0.03	0.24	0.12	-	50	49							
5/27/38	UPW	2.412	SP	6:08A	7	0.02	0.16	0.08	-	75	54							
5/27/38	UPW	2.412	SP	3:30P	15	0.12	1.20	0.18	1.26	75	54							
5/27/38	UPW	2.412	SP	2:15A	10	0.03	0.24	0.12	-	50	49							
5/27/38	UPW	2.412	SP	6:08A	7	0.02	0.16	0.08	-	75	54							
5/27/38	UPW	2.412	E	8:10P	26	0.05	0.24	0.12	-	77	58							
5/27/38	UPW	2.412	SP	8:15P	21	0.04	0.24	0.12	-	77	58							
5/27/38	UPW	2.412	SP	8:15P	21	0.04	0.24	0.12	-	77	58							
5/27/38	UPW	2.412	E	7:05P	30	0.03	0.72	0.52	0.52	78	66							
5/27/38	UPW	2.412	SP	7:05P	30	0.03	0.72	0.52	0.52	78	66							
5/27/38	UPW	2.412	E	12:35A	5	0.02	VL	VL	VL	78	56							
5/27/38	UPW	2.412	E	5:15P	218	0.06	0.36	0.24	0.24	78	56							
5/27/38	UPW	2.412	SP	3:30P	15	0.03	0.36	0.24	0.24	78	56							
5/27/38	UPW	2.412	SP	12:35A	5	0.02	0.36	0.24	0.24	78	56							
5/27/38	UPW	2.412	SP	5:30P	15	0.02	0.36	0.24	0.24	78	56							
5/27/38	UPW	2.412	E	8:00A	10	0.02	0.12	-	-	52	51							
5/27/38	UPW	2.412	E	11:10A	10	0.03	0.12	-	-	52	51							
5/27/38	UPW	2.412	SP	8:00A	10	0.02	0.24	VL	VL	52	51							
5/27/38	UPW	2.412	SP	11:10A	20	0.02	0.24	VL	VL	52	51							
5/27/38	UPW	2.412	SP	8:00A	10	0.03	0.24	VL	VL	52	51							
5/27/38	UPW	2.412	SP	11:10A	20	0.02	VL	VL	VL	52	51							
5/27/38	UPW	2.412	E	12:01A	14	0.05	VL	VL	VL	52	35							
5/27/38	UPW	2.412	SP	12:01A	14	0.04	VL	VL	VL	52	35							
5/27/38	UPW	2.412	SP	12:01A	14	0.04	VL	VL	VL	52	35							
5/27/38	UPW	2.412	E	7:13A	232	0.20	0.24	0.16	0.12	43	33							
5/27/38	UPW	2.412	SP	7:13A	232	0.22	0.24	0.16	0.12	43	33							
5/27/38	UPW	2.412	SP	7:13A	232	0.22	0.24	0.16	0.12	43	33							
5/27/38	UPW	2.412	E	8:00P	60	0.04	0.12	VL	VL	43	33							
5/27/38	UPW	2.412	SP	7:55P	60	0.04	0.12	VL	VL	43	33							
5/27/38	UPW	2.412	SP	7:55P	60	0.04	0.12	VL	VL	43	33							

Run-off did not exceed capacity of silt box which is in front of flume.

 Controlled watershed. 4/27  
 some filling in flume bed.  
 Silt fall placed in flume.  
 5/3 alfalfa 8" to 10" good  
 cover. Harley 20 to 25 ft. high.  
 sparse cover. 5/2 #3 strip-  
 applied pasture now almost  
 surface soil wet - almost  
 solid.



MONTH May, 1938  
SHEET 7 OF 17 SHEETS

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project  
LaCrosse, Wisconsin

Date	Weather:		Rainfall				Maximum Intensity				Thunderstorm (Class 5)		Hose-off				Rainfall Minus Hose-off (inches)	Silt Loss (tons per acre)	Condition of Watershed			
	Number	Area (acres)	Chase No	Begin (hour)	Duration (duration)	Amount (inches)	8 minutes (inches per hour)			15 minutes (inches per hour)		30 minutes (inches per hour)		Minimum	Began (hour)	Ended (hour)				Amount (inches)	Maximum Rate	
							Amount	Rate	Rate	Rate	Cu. ft. sec.	Time										
5/8/38	UPW	2.112	1	1:15A	640	0.06	0.72	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	2:37P	73	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:00P	80	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Grass 3" to 4" high - good cover.
5/8/38	UPW	2.112	1	3:10A	176	0.06	0.72	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	3:40P	10	0.03	0.36	0.12	0.10	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:45P	631	0.06	0.72	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Grass 3" to 4" high - good cover.
5/8/38	UPW	2.112	1	3:45P	73	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	3:45P	90	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:45P	360	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Grass 3" to 4" high - good cover.
5/8/38	UPW	2.112	1	3:45P	6	0.03	0.36	0.12	0.10	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	3:45P	631	0.06	0.72	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:45P	73	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Grass 3" to 4" high - good cover.
5/8/38	UPW	2.112	1	3:45P	90	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	3:45P	360	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:45P	6	0.03	0.36	0.12	0.10	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Grass 3" to 4" high - good cover.
5/8/38	UPW	2.112	1	3:45P	631	0.06	0.72	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	Intertraced pasture watershed.
5/8/38	UPW	2.112	1	3:45P	73	0.05	0.65	0.32	0.30	33	none	14	14	(11)	none	14	14	(16)	14	(16)	14	5/15 Started venturing area.
5/8/38	UPW	2.112	1	3:45P	90	0.05	0															





# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Lacrosse, Wisconsin

WATERSHED		RAINFALL				TEMPERATURE (degrees F.)				RUN-OFF				Material Moved (cubic feet)	Brix Loss (total per acre)	Comments or Watershed
Number	Area (acres)	Oage No.	Begin (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity (inches per hour)			Began (hour)	Ended (hour)	Amount (cubic feet)	Maximum Rate (cu ft. sec. Time)				
			(4)	(6)	(7)	(8)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2.412	UPW	E	11:10P	150	0.43	0.48	0.44	0.42	59	38						Unterraced pasture watershed. Area being grazed. Grass affords good cover.
2.412	UPW	E	11:10P						65	48						
2.415	UPW	SP							59	38						
2.415	UPW	SP							65	48						
2.705	UPW	SP							59	38						
2.705	UPW	SP							65	48						Runoff did not exceed capacity of silt box.
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48	0.0027	1.573	0.001			
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						Unterraced cultivated watershed. 5/23 upper 2/3 harrowed. 5/20 upper 2/3 harrowed and planted to corn. 1-1-4 fertilizer used. 6/2 drilled corn once. 6/3 upper 2/3 had 2" cover of loose dusty soil. Subsoil moist. Lower 1/3 139. 48" to 50". Good stand of clover. 6/9 cultivated corn. 6/10 corn 1 to 2" high. Eye 50" to 52". Subsoil moist. Surface soil moist.
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						Controlled watershed. 5/26 strip 2/3 harrowed and planted to corn. Applied 1/16-1/4 fertilizer. 6/2 drilled corn. 6/3 alfalfa 16" to 22" - fallen down - excellent cover. Corn strip has 2" layer of loose, dry soil. Barley 15" to 18" - Good cover. 6/9 cultivated corn. Subsoil and surface soil moist. Runoff did not exceed silt box capacity.
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						6/10 alfalfa 20" to 21" - fallen down - excellent cover. Corn 1" to 3" - fair stand. Barley 21" - Surface end subsoil moist.
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						
2.412	UPW	E	11:10P	135	0.46	0.60	0.48	0.38	65	48						



RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 9 OF 17 SHEETS

[illegible]





# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 10 OF 17

[illegible]





# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

DATE	WATERED		RAINFALL				MAXIMUM INTEREST			TEMPERATURE		RUN-OFF				RAINFALL MINUS RUN-OFF (inches)	BAY LOSS (tons per acre)	CONDITION OF WATERED
	Number	Area (acres)	Utag No.	Bass (inches)	Duration (minutes)	Amount (cwt 240)	inches (ft. per hour)			Maximum	Minimum	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							15 minutes (ft. per hour)	30 minutes (inches per hour)	45 minutes (inches per hour)					ft. per sec	Time			
7/9/32	UPW	2.412	E	11.38P	97	0.50	1.68	0.94	0.56	81	60	11.45P	.0051	.0066	11.50P	(16)	Untreated pasture watered. 7/21 grain 1" to 2" grazed rather close. Ground hard. Surface soil medium - subsoil moist. 7/30 grain 2" high - closely grazed. Surface and subsoil moist.	
7/10/32	UPW	2.413	E	11.40P	95	0.40	0.96	0.60	0.37	81	60	11.44P	.1377	.5133	11.51P	none		
7/10/32	UPW	2.415	SP	11.40P	95	0.40	0.96	0.60	0.37	81	60	11.49P	.0521	.2866	11.51P	.530		
7/10/32	UPW	2.415	SP	11.40P	95	0.40	0.96	0.60	0.37	81	60	11.49P	.0521	.2866	11.51P	.148		
7/10/32	UPW	2.412	E	9.45P	65	0.95	0.96	0.68	0.42	87	69	9.39P	.0023	.018	9.52P	none	Runoff did not exceed silt box capacity.	
7/10/32	UPW	2.413	SP	9.45P	65	0.95	0.96	0.68	0.42	87	69	9.39P	.0023	.018	9.52P	.0003		
7/10/32	UPW	2.413	SP	9.45P	65	0.95	0.96	0.68	0.42	87	69	9.39P	.0023	.018	9.52P	.0004		
7/10/32	UPW	2.413	E	8.15A	15	0.01	VL	VL	-	84	70						Untreated cultivated watered. 7/21 cultivated corn. 7/22 finished cultivating corn. out eye on lower 1/3 of area.	
7/10/32	UPW	2.413	SP	8.15A	15	0.02	VL	VL	-	84	70						7/21 corn 6" to 6 1/2" high. Eye out and shocked. Good stand of hay 12" to 14" on lower 1/3.	
7/10/32	UPW	2.413	SP	8.15A	15	0.02	VL	VL	-	84	70						Surface soil medium - subsoil moist. 7/30 corn 6" to 7" high. Bay 10" to 12" dense cover. Soil dense - healing field allias. Surface and subsoil moist.	
7/10/32	UPW	2.413	E	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226	.0089	
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413	SP	1.00P	357	1.73	1.44	3.38	2.16	73	58	2.07P	.3574	4.50	2.21P	1.0226		
7/10/32	UPW	2.413																



UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 DIVISION OF RESEARCH
MONTH Aug. 3 1938PROJECT LaCrosse, Wisconsin

## RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 12 OF 17

SHEETS

Watershed		Rainfall				Temperature (degrees F.)			Run-off			Rainfall minus Run-off (inches)		Run Loss (tons per acre)	Condition of Watershed		
Number	Area (acres)	Obs. No.	Duration (minutes)	Depth (inches)	Maximum Intensity			Maximum	Minimum	Period (hour)	Flood (hour)	Amount (inches)	Maximum Rate				
					5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)		
8/5/38	UPW	2,412	E	4:05A	8	0.02	0.12	-	81	61	6:34A	8:16A	.1710	-	.0937	Unterraced pasture watershed. 8/5 grass 2 1/2" high. Surface medium - subsoil moist. 8/16 grass 1" high - spots 4" to 6". Closely grazed. Surface soil medium - subsoil moist. 8/22 grass 2" to 3" high. 9/6 grass 3" high - spots 6" to 12". Recorder float stuck; did not get complete record.	
	UPW	2,412	E	6:15A	120	1.14	4.64	1.54	81	61				-	.0590		
	UPW	2,415	SP	6:15A	8	0.01	VL	-	81	61	6:29A	8:08A	.3737	5.66	7:11A		1.016
	UPW	2,415	SP	6:15A	125	1.22	3.48	2.01	81	61							.229
	UPW	2,705	SP	6:15A	125	1.22	3.48	2.01	81	61	6:50A	8:13A	.3653	4.82	7:16A		.8547
8/8/38	UPW	2,412	E	1:20P	10	0.04	0.24	-	80	66						Unterraced cultivated watershed. 8/16. Corn 8' to 8 1/2" on upper 2/3. Hay 12" to 1 1/2" high - dense cover. Surface soil medium - compact. Subsoil moist. 9/22 corn 8' to 9' high. Hay 15" to 16" - dense cover. Surface and subsoil medium 9/6 corn 8' to 9' high. Hay 10" to 18" - dense cover. Surface soil wet - subsoil moist.	
	UPW	2,415	SP	1:27P	13	0.03	0.15	-	80	66							
	UPW	2,705	SP	1:27P	13	0.03	0.15	-	80	66							
	UPW	2,412	E	7:12A	18	0.01	VL	-	82	73							
	UPW	2,415	SP	7:12A	18	0.01	VL	-	82	73							
8/10/38	UPW	2,412	E	9:15P	155	0.22	0.24	0.16	89	71						Controlled watershed. 8/13 out alfalfa. 8/16 alfalfa cut and laid in swath. Corn 8' to 8 1/2". Barley stubble and poor stand of clover 4" to 6". Surface soil medium - compact. Subsoil moist. 8/19 removed hay. 9/23 alfalfa 3" to 6" high. Corn 8' to 9' high. Barley stubble and clover 6" to 12". Surface and subsoil medium. 8/24 upper 1/2 #5 strip seeded to alfalfa mix and harrowed. 9/16 alfalfa 8" to 18" - good cover. Clover and stubble 6" to 12". Surface wet - subsoil moist.	
	UPW	2,415	SP	9:20P	120	0.20	0.24	0.16	89	71							
	UPW	2,705	SP	9:20P	120	0.20	0.24	0.16	89	71							
	UPW	2,412	E	1:27A	33	0.02	VL	VL	78	67							
	UPW	2,415	SP	1:27A	33	0.02	VL	VL	78	67							
8/16/38	UPW	2,412	E	5:11A	616	4.12	1.42	1.35	67	58	8:34A	1:24P	.8173	.77	10:21A	.0084	
	UPW	2,415	E	5:11A	616	4.12	1.42	1.35	67	58	8:16A	1:23P	.7312	.5133	9:09A	.194	
	UPW	2,705	E	5:11A	616	4.12	1.42	1.35	67	58	8:52A	3:30P	1.1640	1.364	9:15A	.117	
	UPW	2,412	E	11:04P	176	0.62	1.92	1.36	82	62							
	UPW	2,415	SP	11:05P	180	0.54	1.20	1.16	82	62	11:50P	12:57A	.0917	.055	12:00M	.0009	
8/22/38	UPW	2,412	E	10:25A	65	0.06	0.12	VL	60	55							
	UPW	2,415	SP	10:25A	193	0.10	VL	VL	60	55							
	UPW	2,349	SP	10:25A	85	0.09	0.12	VL	60	55							
	UPW	2,345	SP	2:03P	180	0.10	VL	VL	60	55							
	UPW	2,795	SP	10:25A	85	0.06	0.12	VL	60	55							
8/23/38	UPW	2,412	E	2:00P	180	0.10	VL	VL	60	55							
	UPW	2,412	E	2:10A	447	1.67	1.44	1.04	74	52	5:14A	10:36A					
	UPW	2,415	E	2:10A	130	0.62	1.08	1.04	74	52	7:58P	9:18P	2.90	9:19A	1.4460		.250
	UPW	2,415	SP	2:10A	149	1.93	1.35	0.93	74	52	5:02A	11:26A	1.37	8:02P	.4336		.099
	UPW	2,415	SP	7:12A	129	0.40	2.00	1.31	74	52	7:55P	11:34P	1.664	1.895	9:23A		1.6594
8/23/38	UPW	2,705	SP	7:12A	149	1.93	1.35	0.93	74	52	5:19A	10:45A	1.2906	1.117	8:04P	1.6314	.0776
	UPW	2,705	SP	7:12P	129	0.60	2.00	1.31	74	52	8:00P	10:10P	1.1614	1.117	8:04P	.4336	.0776

Untreated pasture watershed.  
 8/5 grass 2" high. Surface  
 medium - subsoil moist. 8/16  
 grass 1" high - spots 4" to 6".  
 Closely grazed. Surface soil  
 medium - subsoil moist. 8/22  
 grass 2" to 3" high. 9/6 grass  
 3" high - spots 6" to 12".  
 Recorder float stuck; did not  
 get complete record.

Untreated cultivated watershed.  
 8/16. Corn 8" to 8 1/2" on  
 upper 2/3. Hay 12" to 14" high.  
 Dense cover. Surface soil  
 medium - compact. Subsoil moist.  
 9/22 corn 8" to 9" high. Hay  
 1 1/2" to 16" - dense cover. Sur-  
 face and subsoil medium 9/6  
 corn 8" to 9" high. Hay 10"  
 to 18" - dense cover. Surface  
 soil wet - subsoil moist.

Controlled watershed. 8/13  
 out alfalfa. 8/16 alfalfa out-  
 laying in swath. Corn 8" to  
 8 1/2". Barley stubble and poor  
 stand of clover 4" to 6". Sub-  
 face soil medium - compact.  
 Subsoil moist. 8/19 removed  
 hay. 9/22 alfalfa 3" to 6" high.  
 Corn 8" to 9" high. Barley  
 stubble and clover 6" to 12".  
 Surface and subsoil medium.  
 8/24 upper 1/2 #5 strip seeded  
 to alfalfa mix and harrowed.  
 9/16 alfalfa 8" to 18" - good  
 cover. Clover and stubble 6"  
 to 12". Surface wet - subsoil  
 moist.















# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

DATE	WATERED		RAINFALL					TEMPERATURE (Fahr ° F)			RUMORY				RAINFALL MINOR RUMORY (inches)	BET LOSS (tons per acre)	CONDITION OF WATERED	
	NUMBER	AREA (acres)	OAS. NO.	Begin (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTEREST			Mean (hour)	Total (hours)	Amount (inches)	MAXIMUM RATE					
							8 minutes (to 100 ft. run)	15 minutes (to 100 ft. run)	30 minutes (to 100 ft. run)				Cu ft. sec.	Time				
1/2/38	UPW	2,112	E	7:00A	122	0.24	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/14/38	UPW	2,112	E	10:13A	22	0.04	0.31	0.12	0.20	12	58							Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/18/38	UPW	2,112	SP	10:51A	21	0.22	0.12	0.28	0.20	12	58							Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/19/38	UPW	2,112	SP	10:51A	21	0.22	0.12	0.28	0.20	12	58							Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/21/38	UPW	2,112	SP	10:51A	21	0.22	0.12	0.28	0.20	12	58							Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/23/38	UPW	2,112	E	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/24/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/25/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/26/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/27/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/28/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/29/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/30/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
1/31/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/1/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/2/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/3/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/4/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/5/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	53						Untreated pasture watered. 10/20. Discounted grazing area. Total number of cow grazing days. 212 days.
2/6/38	UPW	2,112	SP	1:00P	1920	0.78	0.36	0.42	0.24	11	42	5						





# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Date	Weathered		Rainfall							Run-off					Rainfall Gauge (inches)	Six Low (tons per acre)	Remarks				
	Number	Area (acres)	Gage No.	Begin (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity			Begin (hour)	Ended (hour)	Amount (inches)	Maximum Rate								
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)				On ft. sec.	Time							
11/17/30	UPN	2.112	(4)	9:23A	1163	0.77	0.12	VL	VL	(10)	(11)	31	20	(12)	(13)	(14)	(15)	(16)	(17)	(18)	Underseed pasture watered. 11/18 ground unfrozen under snow. 11/22 ground frozen 3". 12/2 frost depth 1" - snow depth 1". 12/21 frost depth 5" - snow depth 4".
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								Underseed cultivated watered. 11/18. Finished plowing upper 2/3 of area. Ground very wet. 11/20 ground unfrozen under snow. 11/22 plowed area-frozen 6". Hay area frozen 3". No snow on ground. 12/10 plowed area - trace of frost. Hay area - no frost - snow depth 3".
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								Controlled watershed. Frost on 11/18 same as above.
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								
11/17/30	UPN	2.112	CP	9:23A	1163	0.77	0.12	VL	VL			31	20								



SHEET 17 OF 17 SHEETS

# RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT LACROSSE, WISCONSIN

DATE	WATERED			RAINFALL						TEMPERATURE (Degree F)		Rise-off				RAINFALL MINOR (inches)	Rise Low (one per acre)	CONDITION OF WATERED	
	Number	Area (acres)	Tag No.	Rise (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Co. ft. sec.				Time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)		
2/26/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/27/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/28/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/29/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/30/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/31/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/32/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/33/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/34/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/35/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/36/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/37/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/38/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/39/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/40/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/41/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/42/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/43/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/44/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/45/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/46/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/47/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/48/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/49/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/50/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/51/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/52/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/53/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/54/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/55/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/56/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/57/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/58/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/59/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/60/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/61/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/62/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/63/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/64/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/65/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/66/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/67/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/68/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/69/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/70/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/71/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/72/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/73/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/74/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/75/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/76/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/77/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/78/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/79/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/80/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/81/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/82/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/83/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/84/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/85/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/86/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/87/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/88/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/89/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/90/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/91/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/92/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/93/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/94/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/95/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16							Watered pasture watershed. 12/29 - 1/1 - 1/2 at depth 7" - snow 16.25" 5.4	
2/96/78	UPW	2.412	CP	5:00P	165	0.14	0.12	VL	VL	34	16						</		















MAY 19 1958

SLAC

SAN

SIAM

TIME

At ground level (Kontali in the valley of SP Group)

Accumulated Runoff

Runoff (in inches)

Unadjusted Runoff

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

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2.5

2.5

2.5

Surface and sub-surface

Unadjusted

Adjusted

MAY 19 1958

WATERFALLS USW 1000

TIME

01

02

03

04

05

06

07

08

09

10

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12

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UNITED STATES DEPARTMENT OF COMMERCE

WATER RESOURCES DIVISION

WATER RESOURCES DIVISION

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and discharge in second half

145

725

1107 2-1259

五

1 AM

NOON

1921

A. modified Rankine indices (d's) (table 1)

2001.12.11

Accumulated Burff

4

.950

CONFIDENTIAL

2702

22

Prevalence	Age	Sex	Occupation	Season	Duration	Location	Prevalence
100%	10-14	M	Student	Summer	10-14	Urban	100%
100%	15-19	F	Student	Summer	15-19	Urban	100%
100%	20-24	M	Student	Summer	20-24	Urban	100%
100%	25-29	F	Student	Summer	25-29	Urban	100%
100%	30-34	M	Student	Summer	30-34	Urban	100%
100%	35-39	F	Student	Summer	35-39	Urban	100%
100%	40-44	M	Student	Summer	40-44	Urban	100%
100%	45-49	F	Student	Summer	45-49	Urban	100%
100%	50-54	M	Student	Summer	50-54	Urban	100%
100%	55-59	F	Student	Summer	55-59	Urban	100%
100%	60-64	M	Student	Summer	60-64	Urban	100%
100%	65-69	F	Student	Summer	65-69	Urban	100%
100%	70-74	M	Student	Summer	70-74	Urban	100%
100%	75-79	F	Student	Summer	75-79	Urban	100%
100%	80-84	M	Student	Summer	80-84	Urban	100%
100%	85-89	F	Student	Summer	85-89	Urban	100%
100%	90-94	M	Student	Summer	90-94	Urban	100%
100%	95-99	F	Student	Summer	95-99	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+	M	Student	Summer	100+	Urban	100%
100%	100+	F	Student	Summer	100+	Urban	100%
100%	100+						

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

date	duration	discovery	frequency	rate % min.	size	year type
per	of	also				
days					(per cent)	
status						
cover		type				
height						
et		cultivated				
soil loss		(% per acre)				

1-2

Age Group	Percentage of Respondents
18-29	85%
30-49	80%
50-69	75%
70+	70%

for Ky. & cover

22

241  
18.51

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... ..  
... ..

100

[illegible]

Surface soil wet - Subsoil moist

4. 4. 4.

2541p12

[illegible]

— 1 —

soil map.

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF CONSERVATION SERVICE

H. A. R. P. T. D. F.

Division of #4, 1001 1/2 St. E., 104th St., Minneapolis, Minn.

2014年12月17日

IN WILDS

[illegible]

1.  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$   
 2.  $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$   
 3.  $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$   
 4.  $\frac{1}{2} \times \frac{1}{8} = \frac{1}{16}$   
 5.  $\frac{1}{4} \times \frac{1}{8} = \frac{1}{32}$   
 6.  $\frac{1}{8} \times \frac{1}{8} = \frac{1}{64}$   
 7.  $\frac{1}{2} \times \frac{1}{16} = \frac{1}{32}$   
 8.  $\frac{1}{4} \times \frac{1}{16} = \frac{1}{64}$   
 9.  $\frac{1}{8} \times \frac{1}{16} = \frac{1}{128}$   
 10.  $\frac{1}{2} \times \frac{1}{32} = \frac{1}{64}$   
 11.  $\frac{1}{4} \times \frac{1}{32} = \frac{1}{128}$   
 12.  $\frac{1}{8} \times \frac{1}{32} = \frac{1}{256}$   
 13.  $\frac{1}{2} \times \frac{1}{64} = \frac{1}{32}$   
 14.  $\frac{1}{4} \times \frac{1}{64} = \frac{1}{256}$   
 15.  $\frac{1}{8} \times \frac{1}{64} = \frac{1}{512}$   
 16.  $\frac{1}{2} \times \frac{1}{128} = \frac{1}{64}$   
 17.  $\frac{1}{4} \times \frac{1}{128} = \frac{1}{512}$   
 18.  $\frac{1}{8} \times \frac{1}{128} = \frac{1}{1024}$   
 19.  $\frac{1}{2} \times \frac{1}{256} = \frac{1}{128}$   
 20.  $\frac{1}{4} \times \frac{1}{256} = \frac{1}{1024}$   
 21.  $\frac{1}{8} \times \frac{1}{256} = \frac{1}{2048}$   
 22.  $\frac{1}{2} \times \frac{1}{512} = \frac{1}{256}$   
 23.  $\frac{1}{4} \times \frac{1}{512} = \frac{1}{2048}$   
 24.  $\frac{1}{8} \times \frac{1}{512} = \frac{1}{4096}$   
 25.  $\frac{1}{2} \times \frac{1}{1024} = \frac{1}{512}$   
 26.  $\frac{1}{4} \times \frac{1}{1024} = \frac{1}{4096}$   
 27.  $\frac{1}{8} \times \frac{1}{1024} = \frac{1}{8192}$   
 28.  $\frac{1}{2} \times \frac{1}{2048} = \frac{1}{1024}$   
 29.  $\frac{1}{4} \times \frac{1}{2048} = \frac{1}{8192}$   
 30.  $\frac{1}{8} \times \frac{1}{2048} = \frac{1}{16384}$   
 31.  $\frac{1}{2} \times \frac{1}{4096} = \frac{1}{2048}$   
 32.  $\frac{1}{4} \times \frac{1}{4096} = \frac{1}{16384}$   
 33.  $\frac{1}{8} \times \frac{1}{4096} = \frac{1}{32768}$   
 34.  $\frac{1}{2} \times \frac{1}{8192} = \frac{1}{4096}$   
 35.  $\frac{1}{4} \times \frac{1}{8192} = \frac{1}{16384}$   
 36.  $\frac{1}{8} \times \frac{1}{8192} = \frac{1}{65536}$   
 37.  $\frac{1}{2} \times \frac{1}{16384} = \frac{1}{8192}$   
 38.  $\frac{1}{4} \times \frac{1}{16384} = \frac{1}{65536}$   
 39.  $\frac{1}{8} \times \frac{1}{16384} = \frac{1}{131072}$   
 40.  $\frac{1}{2} \times \frac{1}{32768} = \frac{1}{16384}$   
 41.  $\frac{1}{4} \times \frac{1}{32768} = \frac{1}{131072}$   
 42.  $\frac{1}{8} \times \frac{1}{32768} = \frac{1}{262144}$   
 43.  $\frac{1}{2} \times \frac{1}{65536} = \frac{1}{32768}$   
 44.  $\frac{1}{4} \times \frac{1}{65536} = \frac{1}{131072}$   
 45.  $\frac{1}{8} \times \frac{1}{65536} = \frac{1}{262144}$   
 46.  $\frac{1}{2} \times \frac{1}{131072} = \frac{1}{65536}$   
 47.  $\frac{1}{4} \times \frac{1}{131072} = \frac{1}{131072}$   
 48.  $\frac{1}{8} \times \frac{1}{131072} = \frac{1}{262144}$   
 49.  $\frac{1}{2} \times \frac{1}{262144} = \frac{1}{131072}$   
 50.  $\frac{1}{4} \times \frac{1}{262144} = \frac{1}{262144}$   
 51.  $\frac{1}{8} \times \frac{1}{262144} = \frac{1}{524288}$   
 52.  $\frac{1}{2} \times \frac{1}{524288} = \frac{1}{262144}$   
 53.  $\frac{1}{4} \times \frac{1}{524288} = \frac{1}{524288}$   
 54.  $\frac{1}{8} \times \frac{1}{524288} = \frac{1}{1048576}$   
 55.  $\frac{1}{2} \times \frac{1}{1048576} = \frac{1}{524288}$   
 56.  $\frac{1}{4} \times \frac{1}{1048576} = \frac{1}{524288}$   
 57.  $\frac{1}{8} \times \frac{1}{1048576} = \frac{1}{1048576}$   
 58.  $\frac{1}{2} \times \frac{1}{2097152} = \frac{1}{1048576}$   
 59.  $\frac{1}{4} \times \frac{1}{2097152} = \frac{1}{524288}$   
 60.  $\frac{1}{8} \times \frac{1}{2097152} = \frac{1}{1048576}$   
 61.  $\frac{1}{2} \times \frac{1}{4194304} = \frac{1}{2097152}$   
 62.  $\frac{1}{4} \times \frac{1}{4194304} = \frac{1}{1048576}$   
 63.  $\frac{1}{8} \times \frac{1}{4194304} = \frac{1}{2097152}$   
 64.  $\frac{1}{2} \times \frac{1}{8388608} = \frac{1}{4194304}$   
 65.  $\frac{1}{4} \times \frac{1}{8388608} = \frac{1}{2097152}$   
 66.  $\frac{1}{8} \times \frac{1}{8388608} = \frac{1}{4194304}$   
 67.  $\frac{1}{2} \times \frac{1}{16777216} = \frac{1}{8388608}$   
 68.  $\frac{1}{4} \times \frac{1}{16777216} = \frac{1}{4194304}$   
 69.  $\frac{1}{8} \times \frac{1}{16777216} = \frac{1}{8388608}$   
 70.  $\frac{1}{2} \times \frac{1}{33554432} = \frac{1}{16777216}$   
 71.  $\frac{1}{4} \times \frac{1}{33554432} = \frac{1}{8388608}$   
 72.  $\frac{1}{8} \times \frac{1}{33554432} = \frac{1}{16777216}$   
 73.  $\frac{1}{2} \times \frac{1}{67108864} = \frac{1}{33554432}$   
 74.  $\frac{1}{4} \times \frac{1}{67108864} = \frac{1}{16777216}$   
 75.  $\frac{1}{8} \times \frac{1}{67108864} = \frac{1}{33554432}$   
 76.  $\frac{1}{2} \times \frac{1}{134217728} = \frac{1}{67108864}$   
 77.  $\frac{1}{4} \times \frac{1}{134217728} = \frac{1}{33554432}$   
 78.  $\frac{1}{8} \times \frac{1}{134217728} = \frac{1}{67108864}$   
 79.  $\frac{1}{2} \times \frac{1}{268435456} = \frac{1}{134217728}$   
 80.  $\frac{1}{4} \times \frac{1}{268435456} = \frac{1}{67108864}$   
 81.  $\frac{1}{8} \times \frac{1}{268435456} = \frac{1}{134217728}$   
 82.  $\frac{1}{2} \times \frac{1}{536870912} = \frac{1}{268435456}$   
 83.  $\frac{1}{4} \times \frac{1}{536870912} = \frac{1}{134217728}$   
 84.  $\frac{1}{8} \times \frac{1}{536870912} = \frac{1}{268435456}$   
 85.  $\frac{1}{2} \times \frac{1}{1073741824} = \frac{1}{536870912}$   
 86.  $\frac{1}{4} \times \frac{1}{1073741824} = \frac{1}{268435456}$   
 87.  $\frac{1}{8} \times \frac{1}{1073741824} = \frac{1}{536870912}$   
 88.  $\frac{1}{2} \times \frac{1}{2147483648} = \frac{1}{1073741824}$   
 89.  $\frac{1}{4} \times \frac{1}{2147483648} = \frac{1}{536870912}$   
 90.  $\frac{1}{8} \times \frac{1}{2147483648} = \frac{1}{1073741824}$   
 91.  $\frac{1}{2} \times \frac{1}{4294967296} = \frac{1}{21474836$

Alma: 7 f 45



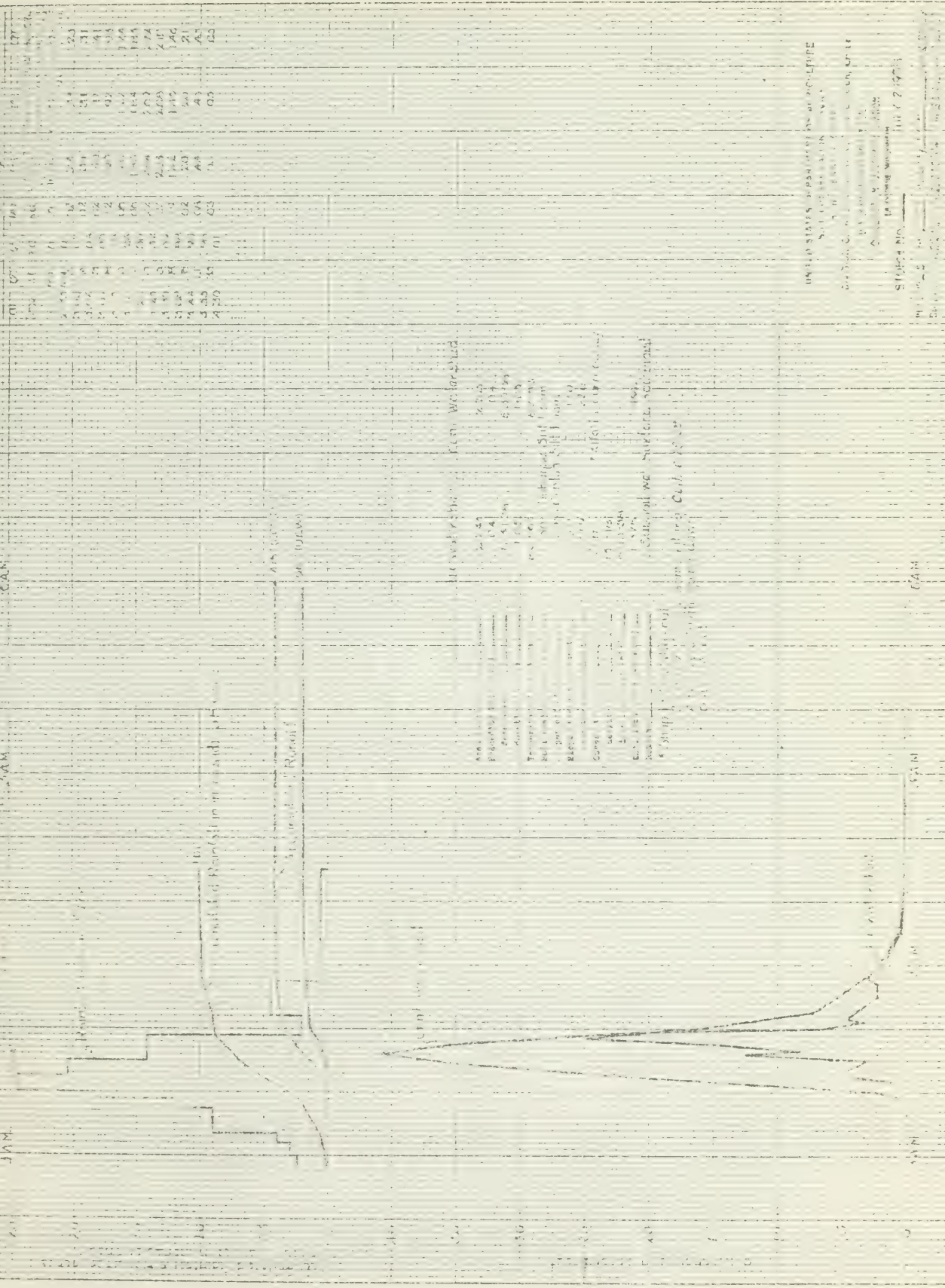


JUN 2 1955

JUN 2 1955

CAN

WATER RESOURCES DIVISION



Area of Dam 1000 sq ft  
Volume of Dam 1000 cu ft  
Weight of Dam 1000 tons  
Cost of Dam 1000 dollars  
Length of Dam 100 ft  
Width of Dam 10 ft  
Height of Dam 100 ft  
Foundation 100 ft x 100 ft

Upstream Face of Dam

Downstream Face of Dam

Foundation

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

WASHINGTON, D. C. 20004

PROJECT NO. 1000

DATE OF REPORT JUN 2 1955

BY J. H. SMITH

Checked by J. H. SMITH

Approved by J. H. SMITH

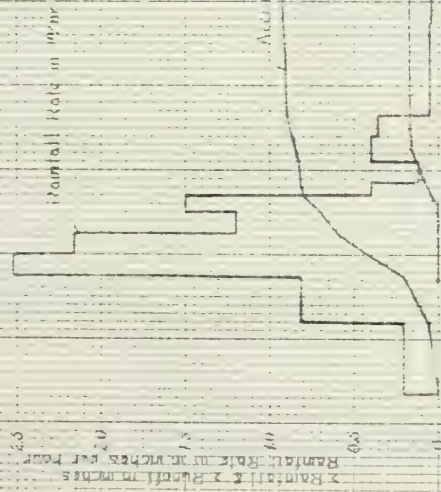
Page 1 of 2 sheets





JULY 2, 1938

3 AM 4 AM 5 AM 6 AM 7 AM



Accumulated Rainfall in inches, July 2, 1938

Accumulated Runoff (mm)

1.70

WATERED 11:30

2.4

6.5

1.05

4.2

1.20

2.4

5.23

1.20

5.007

5.007

5.007

5.007

5.007

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Rainfall Rate in inches per hour

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3 AM 4 AM 5 AM 6 AM 7 AM

WATERED 11:30

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367	368	369
370	37	

1. The first part of the text discusses the importance of maintaining accurate records of all transactions, including sales, purchases, and expenses. It emphasizes that proper record-keeping is essential for determining the correct amount of tax liability and for defending against potential audits.

300017017-177

[illegible][illegible][illegible]

5

1. The first part of the paper is devoted to the study of the properties of the function  $f(x)$  defined by the equation

10

20

1. The first group of people who are interested in the study of the history of the United States are the people who are interested in the history of the United States.











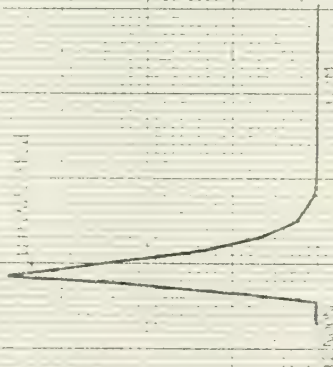


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2017. 7 (1) 100-101

Accumulated Rpt	215	11/26
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And, I'll be right back.

Figure 1

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TOPOGRAPHY (continued)

percent of area...

Slope, average (percent).....

(012) 011.2

Lower, 15

1911

data not collected

\$011 1000 (1000 per more) 612

THE UNIVERSITY OF CHICAGO

[illegible][illegible][illegible][illegible]

Country	Year	Value	Unit
Algeria	1990	1.00	1000
Algeria	1991	1.00	1000
Algeria	1992	1.00	1000
Algeria	1993	1.00	1000
Algeria	1994	1.00	1000
Algeria	1995	1.00	1000
Algeria	1996	1.00	1000
Algeria	1997	1.00	1000
Algeria	1998	1.00	1000
Algeria	1999	1.00	1000
Algeria	2000	1.00	1000
Algeria	2001	1.00	1000
Algeria	2002	1.00	1000
Algeria	2003	1.00	1000
Algeria	2004	1.00	1000
Algeria	2005	1.00	1000
Algeria	2006	1.00	1000
Algeria	2007	1.00	1000
Algeria	2008	1.00	1000
Algeria	2009	1.00	1000
Algeria	2010	1.00	1000
Algeria	2011	1.00	1000
Algeria	2012	1.00	1000
Algeria	2013	1.00	1000
Algeria	2014	1.00	1000
Algeria	2015	1.00	1000
Algeria	2016	1.00	1000
Algeria	2017	1.00	1000
Algeria	2018	1.00	1000
Algeria	2019	1.00	1000
Algeria	2020	1.00	1000
Algeria	2021	1.00	1000
Algeria	2022	1.00	1000
Algeria	2023	1.00	1000
Algeria	2024	1.00	1000
Algeria	2025	1.00	1000
Algeria	2026	1.00	1000
Algeria	2027	1.00	1000
Algeria	2028	1.00	1000
Algeria	2029	1.00	1000
Algeria	2030	1.00	1000
Algeria	2031	1.00	1000
Algeria	2032	1.00	1000
Algeria	2033	1.00	1000
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Algeria	2036	1.00	1000
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Algeria	2067	1.00	1000
Algeria	2068	1.00	1000
Algeria	2069	1.00	1000
Algeria	2070	1.00	1000
Algeria	2071	1.00	1000
Algeria	2072	1.00	1000
Algeria	2073	1.00	1000
Algeria	2074	1.00	1000
Algeria	2075	1.00	1000
Algeria	2076	1.00	1000
Algeria	2077	1.00	1000

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]

1. *Journal of the American Medical Association*, 1997; 277: 1033-1038.

1. *Introduction*  
 2. *Background*  
 3. *Methods*  
 4. *Results*  
 5. *Conclusion*  
 6. *References*  
 7. *Appendix*  
 8. *Supplementary Materials*  
 9. *Correspondence*  
 10. *Conflict of Interest*  
 11. *Acknowledgments*  
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Discharge in Second Year

8561-8477

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July 8, 1938

WATERSHEDS NEW YORK CONT.

	Time	Temp.	Pressure	Flow	Rate	Volume	Weight	Concentration	Notes
1	0.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	1.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3	1.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4	2.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5	2.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6	3.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
7	3.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
8	4.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
9	4.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	5.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11	5.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
12	6.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13	6.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14	7.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	7.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
16	8.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
17	8.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
18	9.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19	9.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	10.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
21	10.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22	11.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
23	11.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
24	12.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25	12.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
26	13.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
27	13.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
28	14.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
29	14.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30	15.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
31	15.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
32	16.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
33	16.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
34	17.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
35	17.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
36	18.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
37	18.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
38	19.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
39	19.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
40	20.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
41	20.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
42	21.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
43	21.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
44	22.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
45	22.5	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
46	23.0	70.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
47	23.5	70.0	1.0	1.0					

Publication in 1915

St. Louis, Mo.

 $(x, y)$ 

Unpublished.

Cumt watershed

1. The first part of the document is a list of names and their corresponding addresses. The names are listed in the left column, and the addresses are listed in the right column. The names are: John A. Smith, John B. Smith, John C. Smith, John D. Smith, John E. Smith, John F. Smith, John G. Smith, John H. Smith, John I. Smith, John J. Smith, John K. Smith, John L. Smith, John M. Smith, John N. Smith, John O. Smith, John P. Smith, John Q. Smith, John R. Smith, John S. Smith, John T. Smith, John U. Smith, John V. Smith, John W. Smith, John X. Smith, John Y. Smith, John Z. Smith. The addresses are: 123 Main St., 456 Main St., 789 Main St., 101 Main St., 202 Main St., 303 Main St., 404 Main St., 505 Main St., 606 Main St., 707 Main St., 808 Main St., 909 Main St., 1010 Main St., 1111 Main St., 1212 Main St., 1313 Main St., 1414 Main St., 1515 Main St., 1616 Main St., 1717 Main St., 1818 Main St., 1919 Main St., 2020 Main St., 2121 Main St., 2222 Main St., 2323 Main St., 2424 Main St., 2525 Main St., 2626 Main St., 2727 Main St., 2828 Main St., 2929 Main St., 3030 Main St., 3131 Main St., 3232 Main St., 3333 Main St., 3434 Main St., 3535 Main St., 3636 Main St., 3737 Main St., 3838 Main St., 3939 Main St., 4040 Main St., 4141 Main St., 4242 Main St., 4343 Main St., 4444 Main St., 4545 Main St., 4646 Main St., 4747 Main St., 4848 Main St., 4949 Main St., 5050 Main St., 5151 Main St., 5252 Main St., 5353 Main St., 5454 Main St., 5555 Main St., 5656 Main St., 5757 Main St., 5858 Main St., 5959 Main St., 6060 Main St., 6161 Main St., 6262 Main St., 6363 Main St., 6464 Main St., 6565 Main St., 6666 Main St., 6767 Main St., 6868 Main St., 6969 Main St., 7070 Main St., 7171 Main St., 7272 Main St., 7373 Main St., 7474 Main St., 7575 Main St., 7676 Main St., 7777 Main St., 7878 Main St., 7979 Main St., 8080 Main St., 8181 Main St., 8282 Main St., 8383 Main St., 8484 Main St., 8585 Main St., 8686 Main St., 8787 Main St., 8888 Main St., 8989 Main St., 9090 Main St., 9191 Main St., 9292 Main St., 9393 Main St., 9494 Main St., 9595 Main St., 9696 Main St., 9797 Main St., 9898 Main St., 9999 Main St.

4% Lutite silt loam  
50% Clinton silt loam

	Alfalfa	Corn	Borley
4	2 <sup>20</sup> / <sub>31</sub>	2 <sup>20</sup> / <sub>31</sub>	2 <sup>20</sup> / <sub>31</sub>
raked			

Estimated 100,000 lbs. of  
spare wood sec. 100,000

Constitution.

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.  
OFFICE OF THE CHIEF, BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

1. The first part of the book is a general introduction to the subject of the history of the United States, and is divided into two parts, the first of which is a general history of the United States, and the second of which is a general history of the United States.



JULY 8 1938

Station

Altitude

Rainfall Rate in inch

Accumulated Rainfall in inches

Accumulated Rainfall

UP Watershed

2.42

7.6.35

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Bluegrass

2.10 spotty

None

Surface and Subsoil saturated

JULY 8 1938

WATERSHED

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WATER RESOURCES DIVISION

U. S. DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C.

Form No. 1-11-1000

Revised 11-1-37

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Prayer: 15

PRINTED BY JAMES WATSON & CO.,  
LONDON.

1. The first group of people who are interested in the study of the history of the world are the historians. They are people who study the past and write about it. They are interested in the events that have shaped the world and the people who have lived through them. They are also interested in the changes that have taken place over time and the reasons for these changes. They are people who are curious about the world and want to know more about it.

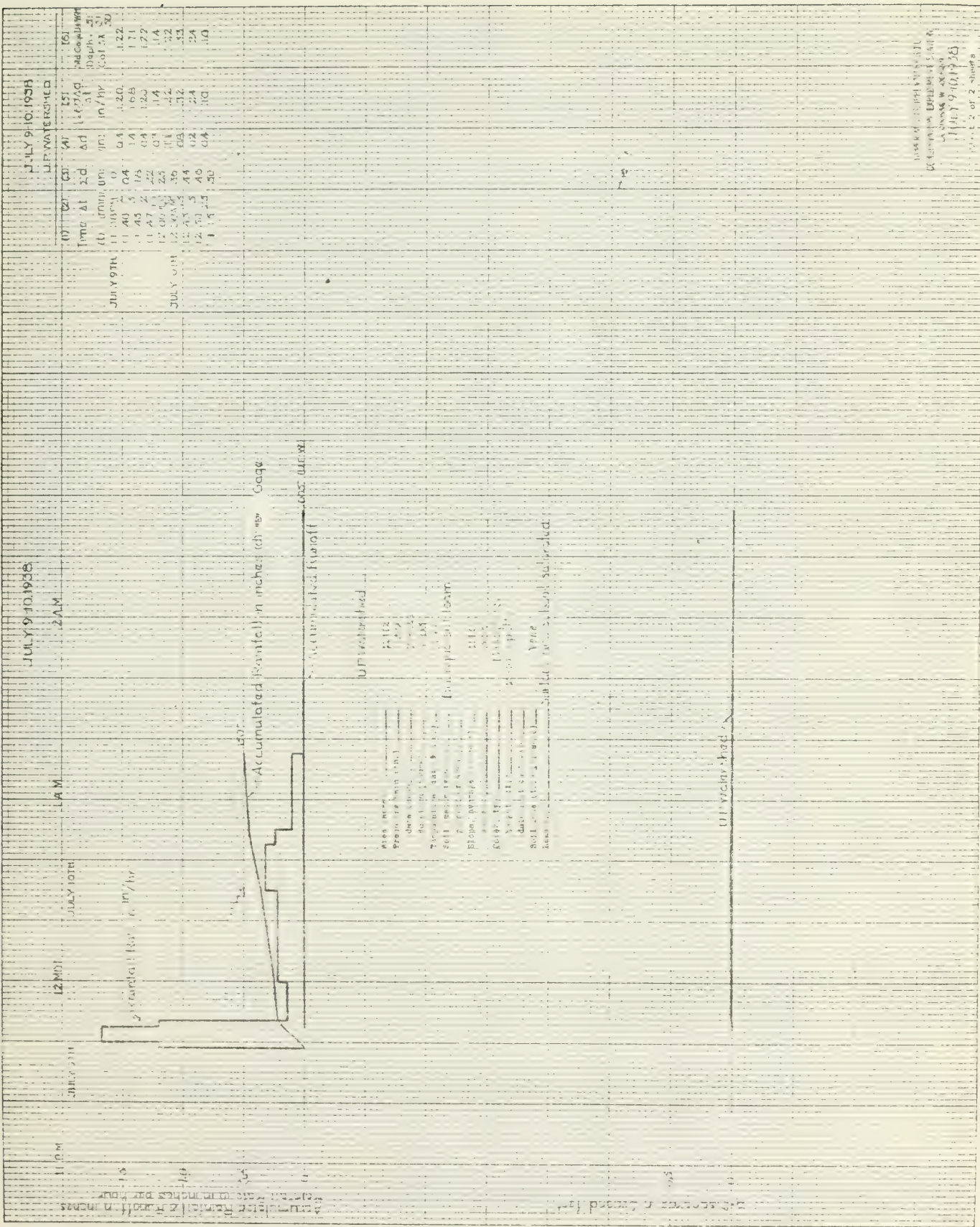
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JULY 9-10, 1958  
 U.S. GEOLOGICAL SURVEY  
 WATER RESOURCES DIVISION  
 WASHINGTON, D.C. 20540  
 JULY 9-10, 1958  
 Page 2 of 2 sheets











JULY 21 1934

4:30 PM

5:15 PM

6:12 PM

7:11 PM

8:11 PM

Associated Records in the box of E Gage

PLANTING RECORD

2413

PL

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Pre-planting...

date begun...

duration (hours)...

temperature (air, & soil)...

soil moisture...

percent of area...

blowing area...

cover type...

height (ft.)...

date last cultivated...

soil loss (ton per acre)...

Remarks...

Indicate soil loss

(inches) 2 ft. high

Graded (feet)

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached

Not reached









AUGUST 16, 1938

5 AM

7 AM

9 AM

10 AM

Accumulated Rainfall in inches per hour

Rainfall Rate in in/hr

Accumulated Rainfall in inches at Gauge

Accumulated Rainfall

U.S. Watershed Cont. Watershed

Aug 15, 1938

U.S. CONT. WATERSHED

Time at	2d	3d	4d	5d	6d	7d	8d	9d	10d	11d	12d	13d	14d	15d	16d	17d	18d	19d	20d	21d	22d	23d	24d	25d	26d	27d	28d	29d	30d	31d	32d	33d	34d	35d	36d	37d	38d	39d	40d	41d	42d	43d	44d	45d	46d	47d	48d	49d	50d	51d	52d	53d	54d	55d	56d	57d	58d	59d	60d	61d	62d	63d	64d	65d	66d	67d	68d	69d	70d	71d	72d	73d	74d	75d	76d	77d	78d	79d	80d	81d	82d	83d	84d	85d	86d	87d	88d	89d	90d	91d	92d	93d	94d	95d	96d	97d	98d	99d	100d	101d	102d	103d	104d	105d	106d	107d	108d	109d	110d	111d	112d	113d	114d	115d	116d	117d	118d	119d	120d	121d	122d	123d	124d	125d	126d	127d	128d	129d	130d	131d	132d	133d	134d	135d	136d	137d	138d	139d	140d	141d	142d	143d	144d	145d	146d	147d	148d	149d	150d	151d	152d	153d	154d	155d	156d	157d	158d	159d	160d	161d	162d	163d	164d	165d	166d	167d	168d	169d	170d	171d	172d	173d	174d	175d	176d	177d	178d	179d	180d	181d	182d	183d	184d	185d	186d	187d	188d	189d	190d	191d	192d	193d	194d	195d	196d	197d	198d	199d	200d	201d	202d	203d	204d	205d	206d	207d	208d	209d	210d	211d	212d	213d	214d	215d	216d	217d	218d	219d	220d	221d	222d	223d	224d	225d	226d	227d	228d	229d	230d	231d	232d	233d	234d	235d	236d	237d	238d	239d	240d	241d	242d	243d	244d	245d	246d	247d	248d	249d	250d	251d	252d	253d	254d	255d	256d	257d	258d	259d	260d	261d	262d	263d	264d	265d	266d	267d	268d	269d	270d	271d	272d	273d	274d	275d	276d	277d	278d	279d	280d	281d	282d	283d	284d	285d	286d	287d	288d	289d	290d	291d	292d	293d	294d	295d	296d	297d	298d	299d	300d	301d	302d	303d	304d	305d	306d	307d	308d	309d	310d	311d	312d	313d	314d	315d	316d	317d	318d	319d	320d	321d	322d	323d	324d	325d	326d	327d	328d	329d	330d	331d	332d	333d	334d	335d	336d	337d	338d	339d	340d	341d	342d	343d	344d	345d	346d	347d	348d	349d	350d	351d	352d	353d	354d	355d	356d	357d	358d	359d	360d	361d	362d	363d	364d	365d	366d	367d	368d	369d	370d	371d	372d	373d	374d	375d	376d	377d	378d	379d	380d	381d	382d	383d	384d	385d	386d	387d	388d	389d	390d	391d	392d	393d	394d	395d	396d	397d	398d	399d	400d	401d	402d	403d	404d	405d	406d	407d	408d	409d	410d	411d	412d	413d	414d	415d	416d	417d	418d	419d	420d	421d	422d	423d	424d	425d	426d	427d	428d	429d	430d	431d	432d	433d	434d	435d	436d	437d	438d	439d	440d	441d	442d	443d	444d	445d	446d	447d	448d	449d	450d	451d	452d	453d	454d	455d	456d	457d	458d	459d	460d	461d	462d	463d	464d	465d	466d	467d	468d	469d	470d	471d	472d	473d	474d	475d	476d	477d	478d	479d	480d	481d	482d	483d	484d	485d	486d	487d	488d	489d	490d	491d	492d	493d	494d	495d	496d	497d	498d	499d	500d	501d	502d	503d	504d	505d	506d	507d	508d	509d	510d	511d	512d	513d	514d	515d	516d	517d	518d	519d	520d	521d	522d	523d	524d	525d	526d	527d	528d	529d	530d	531d	532d	533d	534d	535d	536d	537d	538d	539d	540d	541d	542d	543d	544d	545d	546d	547d	548d	549d	550d	551d	552d	553d	554d	555d	556d	557d	558d	559d	560d	561d	562d	563d	564d	565d	566d	567d	568d	569d	570d	571d	572d	573d	574d	575d	576d	577d	578d	579d	580d	581d	582d	583d	584d	585d	586d	587d	588d	589d	590d	591d	592d	593d	594d	595d	596d	597d	598d	599d	600d	601d	602d	603d	604d	605d	606d	607d	608d	609d	610d	611d	612d	613d	614d	615d	616d	617d	618d	619d	620d	621d	622d	623d	624d	625d	626d	627d	628d	629d	630d	631d	632d	633d	634d	635d	636d	637d	638d	639d	640d	641d	642d	643d	644d	645d	646d	647d	648d	649d	650d	651d	652d	653d	654d	655d	656d	657d	658d	659d	660d	661d	662d	663d	664d	665d	666d	667d	668d	669d	670d	671d	672d	673d	674d	675d	676d	677d	678d	679d	680d	681d	682d	683d	684d	685d	686d	687d	688d	689d	690d	691d	692d	693d	694d	695d	696d	697d	698d	699d	700d	701d	702d	703d	704d	705d	706d	707d	708d	709d	710d	711d	712d	713d	714d	715d	716d	717d	718d	719d	720d	721d	722d	723d	724d	725d	726d	727d	728d	729d	730d	731d	732d	733d	734d	735d	736d	737d	738d	739d	740d	741d	742d	743d	744d	745d	746d	747d	748d	749d	750d	751d	752d	753d	754d	755d	756d	757d	758d	759d	760d	761d	762d	763d	764d	765d	766d	767d	768d	769d	770d	771d	772d	773d	774d	775d	776d	777d	778d	779d	780d	781d	782d	783d	784d	785d	786d	787d	788d	789d	790d	791d	792d	793d	794d	795d	796d	797d	798d	799d	800d	801d	802d	803d	804d	805d	806d	807d	808d	809d	810d	811d	812d	813d	814d	815d	816d	817d	818d	819d	820d	821d	822d	823d	824d	825d	826d	827d	828d	829d	830d	831d	832d	833d	834d	835d	836d	837d	838d	839d	840d	841d	842d	843d	844d	845d	846d	847d	848d	849d	850d	851d	852d	853d	854d	855d	856d	857d	858d	859d	860d	861d	862d	863d	864d	865d	866d	867d	868d	869d	870d	871d	872d	873d	874d	875d	876d	877d	878d	879d	880d	881d	882d	883d	884d	885d	886d	887d	888d	889d	890d	891d	892d	893d	894d	895d	896d	897d	898d	899d	900d	901d	902d	903d	904d	905d	906d	907d	908d	909d	910d	911d	912d	913d	914d	915d	916d	917d	918d	919d	920d	921d	922d	923d	924d	925d	926d	927d	928d	929d	930d	931d	932d	933d	934d	935d	936d	937d	938d	939d	940d	941d	942d	943d	944d	945d	946d	947d	948d	949d	950d	951d	952d	953d	954d	955d	956d	957d	958d	959d	960d	961d	962d	963d	964d	965d	966d	967d	968d	969d	970d	971d	972d	973d	974d	975d	976d	977d	978d	979d	980d	981d	982d	983d	984d	985d	986d	987d	988d	989d	990d	991d	992d	993d	994d	995d	996d	997d	998d	999d	1000d
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U.S. WATERSHED DEPARTMENT OF COMMERCE

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[illegible]

1. Explain the role of the

THE BIZT LEE A 12AM  
37010101 1477AM

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# Accidental Death & Disability

Accumulated Depreciation

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
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Area (acres)
Preceding R.
Date taken
direction
Temperature (max. & min.)
Soil (major type) ...
percent of urea
State, county, sec., T., R.
Cover, type
height (ft.)
Date collected
Collector(s)

DATE	DESCRIPTION	DEBIT	CREDIT	BALANCE
1/1/01	Opening Balance			100.00
1/15/01	Payment	25.00		75.00
2/1/01	Payment	15.00		60.00
2/15/01	Payment	10.00		50.00
3/1/01	Payment	10.00		40.00
3/15/01	Payment	10.00		30.00
4/1/01	Payment	10.00		20.00
4/15/01	Payment	10.00		10.00
5/1/01	Payment	10.00		0.00
5/15/01	Payment	10.00		(10.00)
6/1/01	Payment	10.00		(20.00)
6/15/01	Payment	10.00		(30.00)
7/1/01	Payment	10.00		(40.00)
7/15/01	Payment	10.00		(50.00)
8/1/01	Payment	10.00		(60.00)
8/15/01	Payment	10.00		(70.00)
9/1/01	Payment	10.00		(80.00)
9/15/01	Payment	10.00		(90.00)
10/1/01	Payment	10.00		(100.00)
10/15/01	Payment	10.00		(110.00)
11/1/01	Payment	10.00		(120.00)
11/15/01	Payment	10.00		(130.00)
12/1/01	Payment	10.00		(140.00)
12/15/01	Payment	10.00		(150.00)
1/1/02	Payment	10.00		(160.00)
1/15/02	Payment	10.00		(170.00)
2/1/02	Payment	10.00		(180.00)
2/15/02	Payment	10.00		(190.00)
3/1/02	Payment	10.00		(200.00)
3/15/02	Payment	10.00		(210.00)
4/1/02	Payment	10.00		(220.00)
4/15/02	Payment	10.00		(230.00)
5/1/02	Payment	10.00		(240.00)
5/15/02	Payment	10.00		(250.00)
6/1/02	Payment	10.00		(260.00)
6/15/02	Payment	10.00		(270.00)
7/1/02	Payment	10.00		(280.00)
7/15/02	Payment	10.00		(290.00)
8/1/02	Payment	10.00		(300.00)
8/15/02	Payment	10.00		(310.00)
9/1/02	Payment	10.00		(320.00)
9/15/02	Payment	10.00		(330.00)
10/1/02	Payment	10.00		(340.00)
10/15/02	Payment	10.00		(350.00)
11/1/02	Payment	10.00		(360.00)
11/15/02	Payment	10.00		(370.00)
12/1/02	Payment	10.00		(380.00)
12/15/02	Payment	10.00		(390.00)
1/1/03	Payment	10.00		(400.00)
1/15/03	Payment	10.00		(410.00)
2/1/03	Payment	10.00		(420.00)
2/15/03	Payment	10.00		(430.00)
3/1/03	Payment	10.00		(440.00)
3/15/03	Payment	10.00		(450.00)
4/1/03	Payment	10.00		(460.00)
4/15/03	Payment	10.00		(470.00)
5/1/03	Payment	10.00		(480.00)
5/15/03	Payment	10.00		(490.00)
6/1/03	Payment	10.00		(500.00)
6/15/03	Payment	10.00		(510.00)
7/1/03	Payment	10.00		(520.00)
7/15/03	Payment	10.00		(530.00)
8/1/03	Payment	10.00		(540.00)
8/15/03	Payment	10.00		(550.00)
9/1/03	Payment	10.00		(560.00)
9/15/03	Payment	10.00		(570.00)
10/1/03	Payment	10.00		(580.00)
10/15/03	Payment	10.00		(590.00)
11/1/03	Payment	10.00		(600.00)
11/15/03	Payment	10.00		(610.00)
12/1/03	Payment	10.00		(620.00)
12/15/03	Payment	10.00		(630.00)
1/1/04	Payment	10.00		(640.00)
1/15/04	Payment	10.00		(650.00)
2/1				

[illegible]

525

12. 6. 1911

41	0	14	45	28	90
42	0	14	45	28	90
43	0	14	45	28	90
44	0	14	45	28	90
45	0	14	45	28	90
46	0	14	45	28	90
47	0	14	45	28	90
48	0	14	45	28	90
49	0	14	45	28	90
50	0	14	45	28	90

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LEWIS & CLARK  
CENT. OF AMIAN

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1953

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SEPT 9 10 1938

2 PM

1 PM

12 PM

1 AM

2 AM

3 AM

Rainfall Rate in In/hr

Accumulated Rainfall in inches (6) L. Gage

Accumulated Runoff (in/hr)

Accumulated Runoff (in/hr)

4:17 AM

1876

WATERSHED UPW

(1)	(2)	(3)	(4)	(5)	(6)
Time	Δt	Δh	ΔQ	Q	Q <sub>avg</sub>
11:00	5	0.01	0.01	0.01	0.01
11:05	5	0.01	0.01	0.01	0.01
11:10	5	0.01	0.01	0.01	0.01
11:15	5	0.01	0.01	0.01	0.01
11:20	5	0.01	0.01	0.01	0.01
11:25	5	0.01	0.01	0.01	0.01
11:30	5	0.01	0.01	0.01	0.01
11:35	5	0.01	0.01	0.01	0.01
11:40	5	0.01	0.01	0.01	0.01
11:45	5	0.01	0.01	0.01	0.01
11:50	5	0.01	0.01	0.01	0.01
11:55	5	0.01	0.01	0.01	0.01
12:00	5	0.01	0.01	0.01	0.01
12:05	5	0.01	0.01	0.01	0.01
12:10	5	0.01	0.01	0.01	0.01
12:15	5	0.01	0.01	0.01	0.01
12:20	5	0.01	0.01	0.01	0.01
12:25	5	0.01	0.01	0.01	0.01
12:30	5	0.01	0.01	0.01	0.01
12:35	5	0.01	0.01	0.01	0.01
12:40	5	0.01	0.01	0.01	0.01
12:45	5	0.01	0.01	0.01	0.01
12:50	5	0.01	0.01	0.01	0.01
12:55	5	0.01	0.01	0.01	0.01
1:00	5	0.01	0.01	0.01	0.01
1:05	5	0.01	0.01	0.01	0.01
1:10	5	0.01	0.01	0.01	0.01
1:15	5	0.01	0.01	0.01	0.01
1:20	5	0.01	0.01	0.01	0.01
1:25	5	0.01	0.01	0.01	0.01
1:30	5	0.01	0.01	0.01	0.01
1:35	5	0.01	0.01	0.01	0.01
1:40	5	0.01	0.01	0.01	0.01
1:45	5	0.01	0.01	0.01	0.01
1:50	5	0.01	0.01	0.01	0.01
1:55	5	0.01	0.01	0.01	0.01
2:00	5	0.01	0.01	0.01	0.01
2:05	5	0.01	0.01	0.01	0.01
2:10	5	0.01	0.01	0.01	0.01
2:15	5	0.01	0.01	0.01	0.01
2:20	5	0.01	0.01	0.01	0.01
2:25	5	0.01	0.01	0.01	0.01
2:30	5	0.01	0.01	0.01	0.01
2:35	5	0.01	0.01	0.01	0.01
2:40	5	0.01	0.01	0.01	0.01
2:45	5	0.01	0.01	0.01	0.01
2:50	5	0.01	0.01	0.01	0.01
2:55	5	0.01	0.01	0.01	0.01
3:00	5	0.01	0.01	0.01	0.01
3:05	5	0.01	0.01	0.01	0.01
3:10	5	0.01	0.01	0.01	0.01
3:15	5	0.01	0.01	0.01	0.01
3:20	5	0.01	0.01	0.01	0.01
3:25	5	0.01	0.01	0.01	0.01

WATERSHED UPW

Area (acres) 2.412

Flowing Area (sq. ft.) 167,000

Flowing Area (sq. ft.) 167,000

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Flowing Area (sq. ft.) 167,000

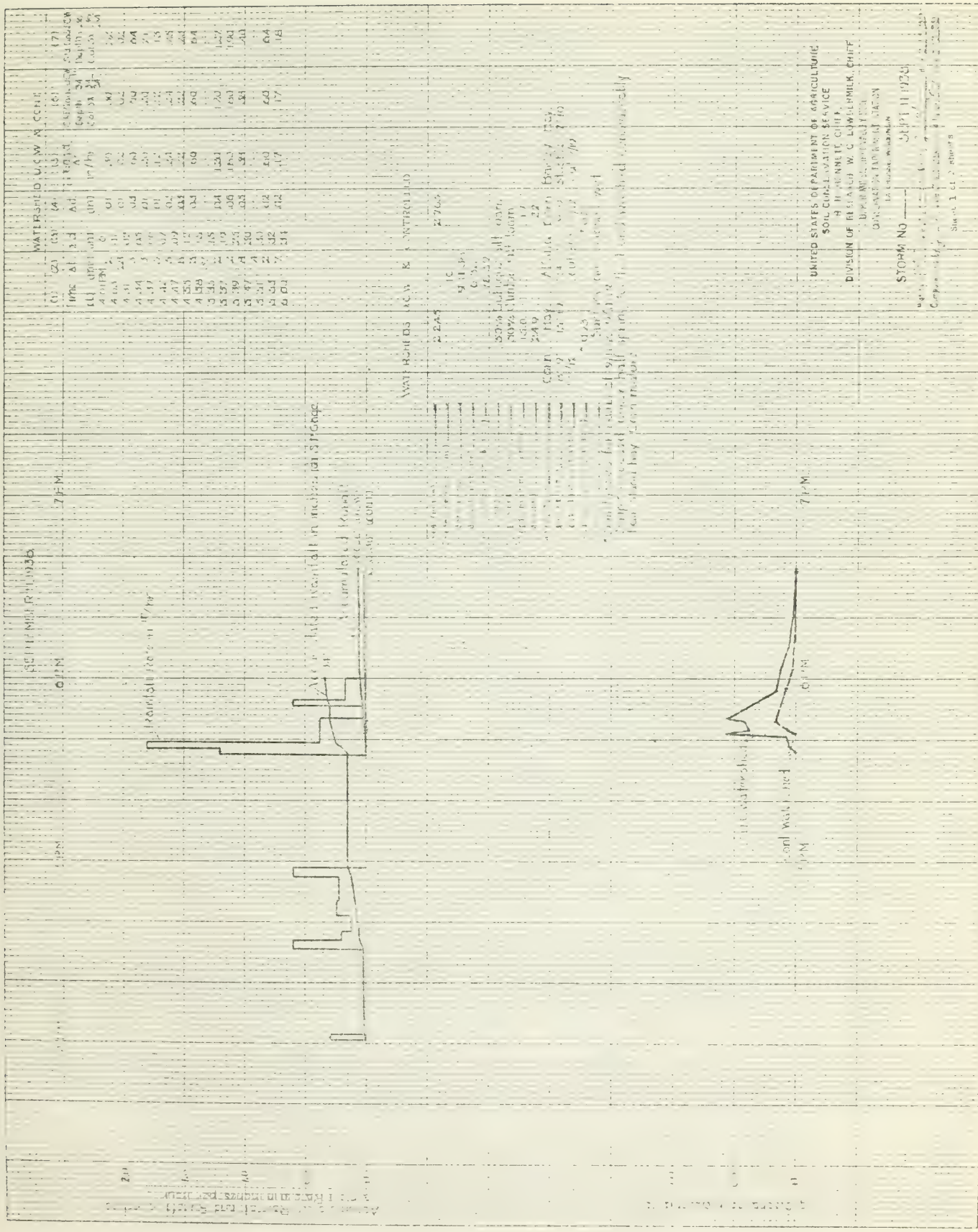
Flowing Area (sq. ft.) 167,000

Flowing Area (sq. ft.) 167,000

Flowing Area (sq. ft.) 167,000

Flowing Area (sq. ft.) 167,000





UNITED STATES DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 H. H. HENNETT, CHIEF  
 DIVISION OF RESEARCH, W. C. LOWMEYER, CHIEF  
 U. S. NATIONAL BUREAU OF SOILS  
 COLUMBIA, MISSOURI

STORM NO. 111111  
 DATE 11/11/11

Sheet 1 of 2 sheets





















